



# College AND UNIVERSITY Business

**AUGUST 1949: Budget Allotments ★ Textile Buying ★ Speedy  
Registration ★ Custodial Training ★ Kitchen Sanitation ★ Office  
Organization ★ New Buildings for Administration and Foods**



## THE PRIVATE COLLEGE MUST REMAIN INDEPENDENT

CHARLES F. PHILLIPS

President, Bates College  
Lewiston, Maine

COLLEGE PRESIDENTS ARE BUSY PEOPLE! WE MUST maintain a faculty; run fund raising campaigns; plan and preside at faculty meetings, commencements, convocations and alumni reunions; talk at football rallies; address dozens of gatherings each year. In fact, I wonder if those of us who are college presidents are not so busy doing all the day-by-day things that must be done that we spend too little time thinking about long-run trends and basic policies.

Perhaps it is our preoccupation with day-by-day events that explains why so many of us are standing on the sidelines while the movement for federal financial aid to private colleges gains strength. If it is, perhaps we would make our greatest contribution to education if we would close our offices for a week and go off to the woods to do some hard thinking on this matter.

Would not such a week of quiet but deep thinking convince us that we must maintain intensive competition among colleges financed in various ways—by religious groups, by the government, and directly by private citizens and corporations? For is it not from this keen competition that experiments in education will come? And to these experiments will not the private colleges contribute far more than their share? The mere fact that they are *private* places them in a position to experiment. That this is true is attested to by the far greater amount of educational experimentation—new programs, new procedures, new ideas—that has taken place in the private college, rather than in the government financed college, since the end of World War II. Bluntly stated: We need the private college to serve as a competitive weapon to lift the standards of higher education.

It seems to me that a week of quiet thinking would also renew our faith in the independent college for another reason: *It provides us with the best insurance we have that academic freedom will be maintained.* I am not saying it is inevitable that if

all colleges were financed by the government, academic freedom would disappear; neither am I implying that such freedom exists in *all* private colleges. Even real life contains some colleges like Good Hope College for Women in the current Broadway play, "Goodbye, My Fancy." But I am saying that history provides enough examples of the loss of academic freedom in government financed colleges to give us cause for concern. History also makes it clear that, although there are some private colleges in which presidents, boards of trustees, or large donors are so unaware of their responsibilities that they place serious restrictions on freedom to think, talk and write, the private college, with the great delegation of power that it gives to its faculty, provides the most likely surroundings for the maintenance of academic freedom.

I am aware that private colleges are already subsidized to a degree by favorable tax laws and by G.I. funds. I am also well aware that it might be possible for private colleges to accept some further degree of federal subsidization without changing their essential character. *Perhaps* we could add some federal scholarships. *Perhaps* we could even include some direct federal grants to private colleges. But we really do not know how far we can go without changing the nature of the private institution. And we are dealing with such an important matter that it is too dangerous to extend the experiment.

In brief, private colleges play an essential rôle in our country, a rôle so important that if they were to lose their independent position it would be a national calamity. While private college presidents alone cannot stem the tide that would make their colleges dependent upon federal funds, they can become leaders in the fight against this danger. There is too much at stake for us to sit on the sidelines. We must not let others make *the most important single decision of this century as far as private colleges are concerned* without making our voices heard.

# College AND UNIVERSITY Business



EDITORIAL DIRECTOR  
RAYMOND P. SLOAN

MANAGING EDITOR  
HAROLD W. HERMAN

ASSISTANT EDITORS  
MILDRED WHITCOMB  
BEULAH H. TORSET

PUBLISHING DIRECTOR  
J. W. CANNON Jr.

DIRECTOR MARKET RESEARCH  
RUSSELL T. SANFORD

PRODUCTION MANAGER  
LEO KEDROK

PUBLISHING AND  
EDITORIAL OFFICES  
919 N. MICHIGAN AVE.  
CHICAGO 11, ILL.  
SU perior 7-6402

EASTERN OFFICE  
101 PARK AVE.  
NEW YORK 17, N.Y.  
MU rray Hill 3-2445

PACIFIC COAST  
REPRESENTATIVES  
ROY M. McDONALD & CO.  
LOS ANGELES, SAN FRANCISCO  
SEATTLE

Published monthly by The Nation's Schools Division, The Modern Hospital Publishing Co., Inc., 919 North Michigan, Chicago 11, Ill., U. S. A. Otho F. Ball, president; Raymond P. Sloan, vice president; Everett W. Jones, vice president; Stanley R. Clague, secretary; J. G. Jarrett, treasurer. Copyright 1949, by The Nation's Schools Division, The Modern Hospital Publishing Co., Inc. Accepted under the Act of June 5, 1934, at Chicago, Ill., authorized March 4, 1947. Published on the tenth of the month of the date of issue. Change of address should be sent thirty days in advance of publication date.

Vol. 7, No. 2, August 1949

August 1949

## FEATURE ARTICLES

The Private College Must Remain Independent.....	Op. 1
CHARLES F. PHILLIPS	
A Rational Basis for Budget Allotments.....	4
G. E. GERE	
How to Organize the Business Office.....	6
DAYTON L. RANCK	
Composite Form Speeds Registration 50 Per Cent.....	10
HALL SMITH Jr.	
The First Order of Business at Denver University.....	13
RAYMOND FORER	
Medieval Castle Theme of Student Union.....	15
C. W. PRIES	
Multistory Building Serves as Laboratory School.....	16
JOHN S. GLAS and GORDON M. A. MORK	
Foods Building at Penn State.....	19
WOODROW W. BIERLY	
The Case for a Clear Patent Policy.....	22
T. E. BLACKWELL	
Getting the Most for the Money in Textile Buying.....	23
L. A. BRADLEY	
Inventory Control for a Snack Bar.....	26
RUBEN J. DUMLER	
Grounds for Maintenance and Management—Part II.....	27
ROBERT S. CHAMBERLIN	
Training Custodians.....	29
BRUCE W. MERWIN	
Keep the Food Clean!.....	31
ARTHUR S. BUTTERWORTH	

LOOKING FORWARD.....	3
QUESTIONS AND ANSWERS.....	34
NEWS OF THE MONTH.....	35
NAMES IN THE NEWS.....	39
DIRECTORY OF ASSOCIATIONS.....	40
WANT ADVERTISEMENTS.....	58
WHAT'S NEW.....	64



## EDITORIAL BOARD

### GENERAL ADMINISTRATION

WILLIAM NORTON.....*University of California*  
D. I. RHIND.....*M.I.T.*  
HARRY L. WELLS.....*Northwestern University*

### FINANCE AND ACCOUNTING

T. E. BLACKWELL.....*Washington University*  
BOARDMAN BUMP.....*Mount Holyoke College*  
CLARENCE SCHEPS.....*Tulane University*

### PERSONNEL AND OFFICE MANAGEMENT

DONALD E. DICKASON.....*University of Illinois*  
CHARLES W. HOFF.....*University of Omaha*  
J. O. LINDSTROM.....*University of Oregon*

### PURCHASING AND STORES

HENRY B. ABBETT.....*Purdue University*  
GEORGE S. FRANK.....*Cornell University*  
LESLIE F. ROBBINS.....*University of Colorado*

### DESIGN AND CONSTRUCTION

HENRY KAMPHOEFFNER.....*North Carolina State*  
ERNEST L. STOUFFER.....*University of Illinois*

### PLANT OPERATION AND MAINTENANCE

A. F. GALLISTEL.....*University of Wisconsin*  
STANLEY PATTERSON.....*S.M.U.*  
FRED G. ROUNDS.....*State College of Washington*

### FEEDING AND HOUSING

MARY DEGARMO BRYAN.....*Columbia University*  
THEODORE W. MINAH.....*Duke University*  
CHRISTINE RICKER.....*Stanford University*

### AUXILIARY ENTERPRISES AND RELATED ACTIVITIES

F. L. JACKSON.....*Davidson College*  
T. N. MCCLURE.....*Knox College*  
R. B. STEWART.....*Purdue University*

### STUDENT ENTERPRISES AND SERVICES

FRED AMBROSE.....*University of Iowa*  
PORTER BUTTS.....*University of Wisconsin*  
IRWIN K. FRENCH.....*Middlebury College*

## EDITORIAL CONSULTANTS

JAMIE R. ANTHONY.....*Georgia Tech*  
SAM BREWSTER.....*Alabama Polytechnic*  
WILLARD J. BUNTAIN.....*Northwestern University*  
W. A. DAVENPORT.....*Brown University*  
PAUL FRIEDRICH.....*Cranbrook Schools*  
G. A. MILLS.....*Princeton University*  
BRUCE POLLOCK.....*Carleton College*  
REV. J. LEO SULLIVAN, S. J.....*Holy Cross*  
DON WHEATON.....*Sweet Briar College*

## Among the Authors



G. E. Gere

GEORGE E. GERE, assistant controller of Carnegie Institute of Technology, whose article on budget allocation of income appears on p. 4, has been active in university accounting circles since 1927 when he began work as a junior accountant at the University of Illinois. In 1930 he joined the University of Michigan staff as assistant chief accountant. In 1942 he became cashier of the business office at the same institution, and in 1945 left Michigan to accept his present position. His hobbies are taking care of the lawns and gardens at home, local church work, and golfing. . . . DAYTON L. RANCK, treasurer of Bucknell University, held responsible sales and executive positions in industry before joining the staff of the university as comptroller in 1924. In 1931 he was appointed to his present position as treasurer. On p. 6 he describes the system he established for office organization at Bucknell.



H. Smith Jr.

HALL SMITH JR., business manager-treasurer of Brevard College, has made a hobby of method improvement in office procedures that he used to good advantage in improving the registration procedures at Brevard, which he describes on p. 10. Prior to joining the college staff he had been an office supervisor for almost five years with the Tennessee Eastman Corporation at Oak Ridge, and for ten years before that had been a cashier for the Liggett and Myers Tobacco Company. For relaxation he tackles his garden, likes to travel, and is active in church and community work. . . . RAYMOND FORER, assistant in public relations at the University of Denver, describes the new classroom building being erected on the downtown campus near Denver's civic center on p. 13. He was active at the University of Denver as an undergraduate, earning Phi Beta Kappa honors and founding the literary magazine, "Foothills," as well as participating in other college activities.



B. W. Merwin

BRUCE W. MERWIN, professor of education at Southern Illinois University, describes on p. 29 his technics for custodial training. In 1936 he conducted the first custodian training schools in Illinois and since then has been chairman of the board of directors of the Southern Illinois Custodian-Engineers Association. He has been a professor at the university since 1927, and was acting president in 1944. His hobbies include Illinois archaeology and the development of the lower Mississippi River.



L. A. Bradley

LEWIS A. BRADLEY, manager of the university laundry service at the State University of Iowa, describes on p. 23 the types of fibers encountered in fabrics and their proper purchase and care. He is at present the laundry consultant for the American Hotel Association and chairman of the laundry management committee of the American Hospital Association. His writing hobby resulted in the publication of 45 articles in magazines and three manuals on laundry operations.



# Looking Forward

## Red Herring?

LIFE ON THE HOME FRONT IS EXCITING THESE DAYS. Almost every newspaper in the land has carried banner headlines on spy trials, congressional investigations, and "communism on the college campus." It's enough to make your hair curl, and the language used is hot enough to do it.

Where there's so much hue and cry about academic freedom there must be some fuel (fool?) feeding the blaze. It is questionable, however, whether the truth lies at either extreme of complete innocence or guilt. Undoubtedly there have been cases where, under the guise of "academic freedom," there have been abuses and faculty members have utilized their positions for propagandizing a Communistic philosophy that is inimical to the security of the United States. But these cases are not as widespread as some newspaper columnists would have the public believe. The overwhelming majority of college faculties are loyal Americans.

The serious mistake that is being made on so many fronts is the practice of tagging a person a Communist simply because he propounds an unpopular opinion or is "guilty" of independent thought. Such "Red" baiting by uninformed critics is ample evidence of the intellectual shallowness of the critic. Probably that same critic is embarrassed in the presence of a new idea.

The "witch-hunter" is as vicious as the thing he may be attempting to eradicate. The law of the vigilante and the masked night rider is fully as much a threat to freedom as is communism. Chancellor Hutchins of the University of Chicago pointed out these dangers in stating that "the heart of Americanism is independent thought. The cloak-and-stiletto work that is now going on will not merely mean that many persons will suffer for acts that they did not commit, or for acts that were legal when committed, or for no acts at all. Far worse is the end result, which will be that critics, even of the mildest sort, will be frightened into silence. Stupidity and injustice will go unchallenged because no one will dare to speak against them."

In a storm of such ideological turbulence as we find on every hand today, it is difficult to counsel for calm and objective reasoning. It becomes an easy matter to become involved in either of the warring camps. The hysteria of the "witch hunt," however, leaves many of us pretty shamefaced in our calmer moments as we recall our vitriolic behavior.

There seems to be ample evidence that it is difficult for a person to be a Communist and not be subject to

the "party line." Such an attitude of subservience, of course, disqualifies a person for competent and objective teaching.

The real test, as Kipling put it, is to be able to "keep your head while those about you are losing theirs." As an educated man, one must give evidence that he can think for himself. With that philosophy, a man's integrity can be fully maintained and the future of the country and education assured.

## Toward Professional Growth

IT IS ENCOURAGING TO NOTE THE CURRENT INTEREST among college administrators in the sponsorship of training institutes for administrative personnel.

Indicative of this emphasis is the staging of a Purchasing Institute for college executives this month at Teachers College, Columbia University, under the auspices of the National Association of Educational Buyers. A Training Institute for business managers will be conducted in November at Atlanta under the sponsorship of the Southern Association of College and University Business Officers. Within recent weeks the second successful Food Service Institute was concluded in Chicago under the joint sponsorship of Northwestern University and COLLEGE AND UNIVERSITY BUSINESS.

All these meetings or "institutes" are a step in the direction of developing more efficient and competent members of the college administrative team. Competent instruction, born out of study and experience, is vastly superior to rule of thumb operation. College administrators would be well advised to support and participate enthusiastically in these well planned "training institutes" for administrative personnel.

## Kudos for the Business Manager

THE COLLEGE BUSINESS MANAGER IS NO LONGER THE unsung hero on the campus that he used to be. He's achieving the distinction of honorary degrees—in some cases awarded by his own institution, in other instances by a friendly neighboring college.

Colleges must be awarding honorary degrees on some other basis than wealth when they tap a college business manager for the honor. It's hardly the kind of a job on which to make your first million dollars. Evidently the college business manager thus cited is being recognized for what he is—a valued and respected member of the society he so ably serves.

To those business managers upon whom honorary degrees recently have been bestowed—congratulations!



# A RATIONAL BASIS FOR BUDGET ALLOTMENTS

**G. E. GERE**

Assistant Controller-Finance  
Carnegie Institute of Technology

MOST MANUFACTURING CORPORATIONS place each department engaged in production activity on a cost basis to determine whether the department is operating efficiently. Effort has been made in the school or college to do the same with departments and students so far as costs are concerned. But because of variances between costs for freshmen and seniors, or literary and medical students, to use examples, and because each student's course is an individual case, cost comparisons have been difficult.

Moreover, often departmental costs are not compiled because of the apprehension that comparisons may be made and an erroneous interpretation given to differences in cost, both within an institution and between one's own and other institutions. Such differences may be due to many circumstances: difference in geographical location, the type of college and course given, and other special conditions.

It is clearly advantageous, however, to make, in a general way, an expense

budget allotment for each school or college within a university. This allotment should be based on such income, less various university expenses, as may be allocated to each college.

To illustrate the suggested method, an example of estimated income for a hypothetical university is given below in table 1. The estimate would be prepared after a careful study of the expected operation of the school for the coming budget year. It does not include every item that would appear in a university budget, for an effort has been made to use a simple example.

Budget allotments may be made on many bases, and the problem is to determine the share of the income that each college, division or office should receive. The goal is to establish the proper balance between expenditure budgets for the three colleges and the other, or noncollege, budgets. There should be exerted on all units concerned the same pressures for fairness and economy. After conferences held by the administration, the deans of

the three colleges, and the directors or department heads for the noncollege budgets, it is assumed that the allotments as based on past experience, expected student enrollment, and other factors would be determined for all but the three colleges, with perhaps the results shown in table 2.

The problem now is to determine the budget allocation for the individual college. Each college in which a separation of students taking work in that particular college can be made is to be considered as a separate unit, with its budget income producing the amount required for its expense budget. From the whole university income, credit would be given to each college for tuition fees and other fees received from the students in that college. Endowment income would then be distributed in proportion to the number of students in each college. Also to be distributed would be endowment fund income allocated specifically to a particular field within a college. Miscellaneous and other income—income not produced by the colleges—would be distributed on a dollar budget basis: that is, in accordance with the ratio of the total operating budget for each college to the total of the three college budgets. Thus, the total income produced for each college would be determined.

Against this income would be charged in the form of what may be termed overhead such items as expenses for evening and extra classes and services by the general subjects division (or any other such separate division), the library, the division of physical welfare, and other instructional units on the basis of service to the students involved. Administration and general expenses would be

**TABLE 1. ESTIMATED INCOME  
FOR BUDGETED EXPENDITURES**

<b>TUITION FEES:</b>	
College A.....	\$1,400,000
College B.....	300,000
College C.....	450,000
Extension and evening classes...	145,000
<b>ENDOWMENT INCOME:</b>	
Unrestricted.....	770,000
Restricted.....	40,000
<b>CURRENT FUNDS INVESTED.....</b>	<b>10,000</b>
<b>USE CHARGE (Research and Auxiliary Enterprises).....</b>	<b>50,000</b>
<b>MISCELLANEOUS.....</b>	<b>34,000</b>
<b>TOTAL.....</b>	<b>\$3,199,000</b>

**TABLE 2. ESTIMATED  
BUDGET EXPENDITURES**

Offices of the President, Treasurer, Dean of Students, Business Man- ager, Alumni, Public Relations, etc..	\$ 500,000
Retirements and Group Insurance...	150,000
Scholarships.....	48,000
College A } College B } (Balance of unallocated College C } income).....	1,516,000
General Subjects (a service division for all colleges).....	275,000
Extension and Evening Classes.....	51,000
Library.....	93,000
Physical Welfare Division.....	61,000
Operation and Maintenance of Plant.....	505,000
<b>TOTAL.....</b>	<b>\$3,199,000</b>



distributed on a college dollar budget basis (the same as miscellaneous income), and costs of operation and maintenance of plant would be distributed according to use of space by each college. Costs for scholarships and other similar items would be distributed on an actual expenditure basis for each college.

The amount representing the difference between the income and the overhead expenses to be deducted would serve as a guide to the allotment figure for the individual college budget. The accompanying schedule for a hypothetical university shows budget allocations for the three colleges.

In this plan various methods of distribution have been followed, some according to student population, others according to the floor space occupied, and some according to the dollar value of the individual college budget. Therefore, a systematic means for the making of tentative budget allocations has been provided. It is not difficult to reconcile the individual college budget income as given here with the total for the university. Further, the budget allocations for the three colleges, when listed in the proper place in the schedule for estimated budget expenditures, will produce the budget for the university as a whole.

The method outlined may serve only as a guide for a particular school or university, for not all of the items of income and expense that appear in a budget have been illustrated. One outstanding example of an omitted item is the state appropriation, which could be distributed on the basis of the ratio of the number of students in each college. Other governmental appropriations for specific work, of course, would be allotted to the college concerned. There are also accounts that are not affected by this distribution, such as contract research, auxiliary activities, and other enterprises operated on a separate cost basis.

The budget figure produced for each college should serve as a guide to show whether income from tuition fees and other sources is or is not adequate to operate the college. In some cases it may be necessary to obtain additional income. The distribution should indicate the difference between what is available and what is required to operate each college.

The purpose of the plan is to present the operation of each college as a distinct financial unit with its own income and expense, which should

balance. A fair proportion of the expense of operating the university is deducted from the income allocated to each college. Care should be taken in using a predetermined scheme in the distribution of both income and expense items. The system described represents a rational basis for making budgetary distributions under current conditions, its purpose being to serve as a tool or guide to the administration. If the school as a whole is operating under an unbalanced budget—that is, with a deficit—the allotments made under the procedure given will show which colleges are producing such a deficit and to what extent.

The budgetary procedure described should serve the individual college deans because all of the financial factors in the university budget as a whole are stated, showing to each college the determined limits of expenditures in the categories under the dean's control, the costs to be carried in addition, and the relationship of each college budget to the university budget. It should be the responsibility of the central administration to establish

the proper balance among the general expenditures charged in the distribution to the several colleges, subject to review by the deans.

It is not possible to prepare the statements under the direction of the president without full cooperation and consultation among individual college deans, divisional directors, and department heads, because special situations and problems must be solved in the operation of the plan.



#### Schedule of Budget Allocations for a University With Three Colleges

	COLLEGE A	COLLEGE B	COLLEGE C
<b>INCOME</b>			
Tuition Fees—Amount of tuition paid by students in each specified college (includes extension and evening classes).....	\$1,500,000	\$305,000	\$490,000
Endowment Income—Allocation based on the ratio of number of students in each college.....	450,000	145,000	175,000
Income From Specified Restricted Endowment Funds Earmarked income specified by donor of fund.....	40,000	.....	.....
Miscellaneous (Includes current funds invested and use charge for research and auxiliary enterprises)—Allocation made on an expense budget ratio basis.....	60,000	12,000	22,000
Total Income.....	\$2,050,000	\$462,000	\$687,000
<b>LESS: OTHER EXPENSES</b>			
Extension and Evening Classes—Students served used as a basis for distribution.....	\$ 35,000	\$ 2,000	\$ 14,000
General Subjects Division—Students served used as a basis for distribution.....	165,000	50,000	60,000
Library—Ratio of the total student enrollment used as a basis of distribution.....	56,000	17,000	20,000
Physical Welfare—Ratio of the total student enrollment used as a basis of distribution.....	36,000	11,000	14,000
Scholarships—Budget expenditure estimate for students in each college used as a basis for distribution.....	27,000	11,000	10,000
Annuity and Insurance—Budget expenditure estimate for college staff used as a basis for distribution. Remainder included under Administration and General	32,000	11,000	18,000
Administration and General (Includes other than college retirements and group insurance of \$89,000)—Expense budget ratio used as a basis for distribution..	383,000	76,000	130,000
Operation and Maintenance of Plant—Ratio of space occupied used as a basis for distribution.....	308,000	80,000	117,000
Total Other Expenses.....	\$1,042,000	\$258,000	\$383,000
<b>BUDGET ALLOCATION.....</b>	<b>\$1,008,000</b>	<b>\$204,000</b>	<b>\$304,000</b>





Robert Hall, the central administrative building at Bucknell.

*How to organize the*

## **BUSINESS OFFICE**

**DAYTON L. RANCK**

Treasurer, Bucknell University  
Lewisburg, Pa.

THE OBJECTIVES OF THE BUSINESS organization are to keep the services of the college functioning smoothly; to handle and record the financial transactions of the institution, and to serve as a direct source of information to the board of trustees, the president, the faculty, and the student body. This is a broad and general statement.

The modern college not only must furnish instruction for its students, but

also must provide housing, dining, medical and recreational facilities and, in addition, must furnish supplies and merchandise to patrons of the college. To perform all these functions means the collection of substantial sums of money, the banking of these funds, the recording of all transactions, the payment of an almost endless volume of invoices after they have been properly approved, and the rendering of accept-

able service to all parties concerned: trustees, administrative officers, alumni, students and parents.

The period when the business transactions of the college could be carried in the proverbial vest pocket long has passed. Today, exacting business executives who are members of college boards require the college affairs to be conducted on the same high plane that they demand from a department in their own business. Alert college presidents trained in institutional management cast a keen eye upon the business office and hold the head of the office responsible for efficient operation to the end that they may learn at any time the actual state of affairs of the college. And successful alumni who are constantly becoming more interested in the business activities of their alma mater have little patience for or with the inefficient business office. To meet this constantly increasing demand for service, the business office must be built upon a sound basis in order that it may function as expected.

This requirement means that the staff of the business office must be of sufficient number and caliber to perform the tasks always presenting themselves. Any program for an adequate staff has its immediate drawbacks, for to carry on successfully under modern circumstances means that the staff must be expanding. Such expansion soon may bring criticism from some academic divisions of the institution, for some people think that business offices grow too fast and too large and sometimes are out of proportion to other activities of the institution.

To be more specific, faculty members often become quite critical of an enlarged business staff, for their primary interests are in instruction. In many instances, they believe that all a college needs is a student on one end of a log and a Mark Hopkins on the other end. Good judgment must,

therefore, be exercised in the expansion of any business office.

I want to describe briefly the organization that functions at Bucknell University, a privately controlled, coeducational institution with 2400 students, founded over a century ago by a church group that was exceedingly liberal in its attitude. To this day the church relationship exists but in a manner that does not limit in any degree, except as to recognized Christian principles, the operation of the institution. Ours was originally a liberal arts college, but we now are offering degree courses in engineering and the sciences, as well as in the arts. In 1940 our enrollment was less than 1500; today it is nearly 1000 more. Bucknell's endowment is very small as college endowments go, and most of our income comes from students.

We are located in a rich agricultural section of central Pennsylvania, in a community of 3500 people—exclusive of the college population—that is almost 100 per cent residential. Many of the required services of the college must be supplied by the institution itself. For the dual purpose of furnishing these services and of supplementing the college income, several auxiliary enterprises are operated, all of them on a profitable basis.

Residence hall facilities house about 650 men and 600 women students. Married student quarters house 50 couples; houses and apartments provide living quarters for 30 faculty

members. Two farms with their dairy herds and dairy processing plant provide milk and cream for the two dining rooms where about 1000 students take their meals daily; laundry, power and heating plant, bookstore, medical service, and recreational services add to the program.

#### VOUCHERS EXCEED 16,000

Bucknell's budget is almost \$2,000,000 per year. Of this sum, about \$1,250,000 is devoted to the direct educational program and the remainder of \$750,000 to the several enterprises referred to in the preceding paragraph. To disburse this budget, wage and salary checks go to 550 persons in addition to payments ranging from \$2.50 to \$75 a month to 250 students for services. The number of vouchers written each year exceeds 16,000. Use is made of a bookkeeping machine for the disbursements and of another machine for recording student ledger transactions, both charges and receipts. A staff of 14 handles the direct business office matters, and an additional staff of 20 individuals functions as key persons in purchasing, dining service, housing, store, service and outside departments.

The organization chart illustrated will serve to place the key individuals in the Bucknell staff. Although this chart was completed only last summer, it has been subject to minor changes in recent months, since it is recognized that an organization of this

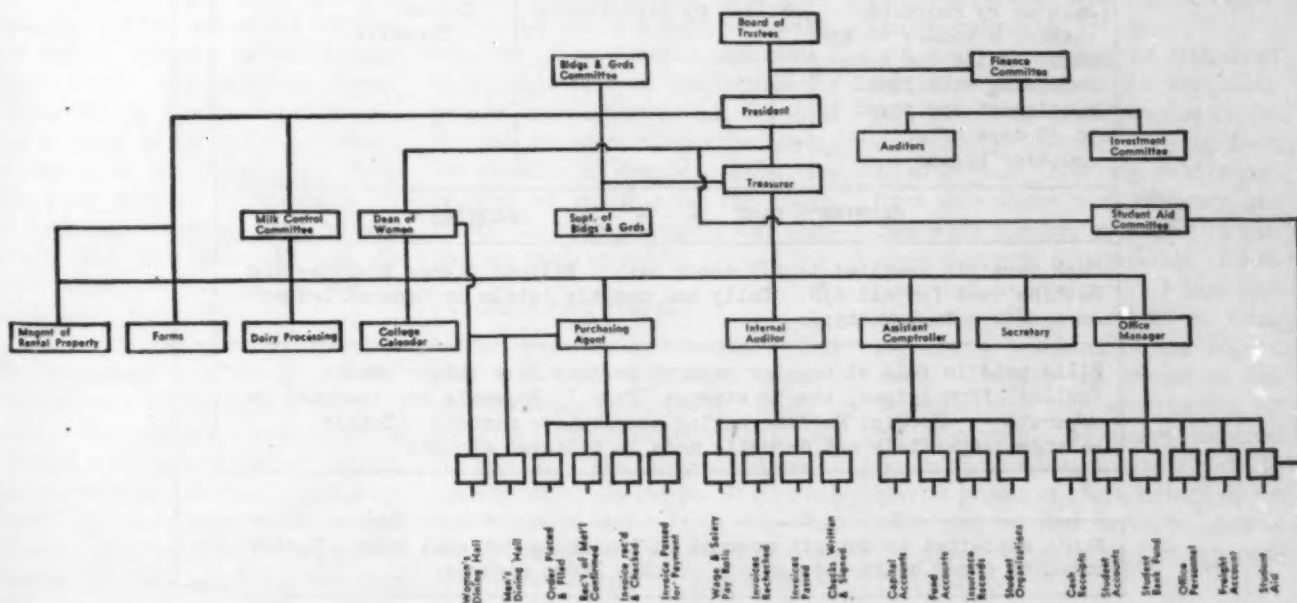
type must be flexible and must be changed to meet new conditions.

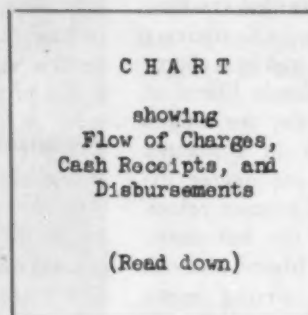
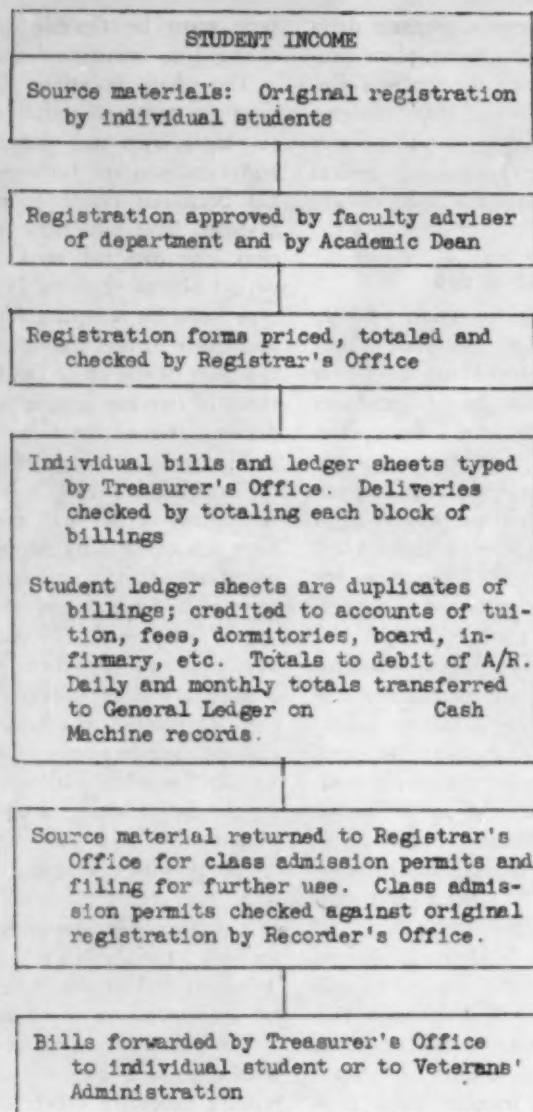
The chart is self-explanatory. It does not name all individuals, but the responsibilities are definitely lodged and functions are fully established. It has been our policy to select an individual, have him grow into the position, give him full responsibility, and expect him to perform. Persons of this type must be adequately compensated and made to feel that they are a definite part of the office family. At least three of our key people have master's degrees, two of them in mathematics, and several others enjoy the advantages of superior training and experience. A number of our staff members with high school training supplemented by broad experience are performing exceptionally high grade service and are valued employees. However, certain key positions, by their very nature, require a college background. Indeed, this organization has been so built up that the treasurer boasts that the organization would function smoothly should he suddenly drop out of the picture.

Along with the organization chart is a "flow chart" showing the course of our current or operating fund transactions. It is intended to show the operating end of our business office so far as it pertains to the current fund.

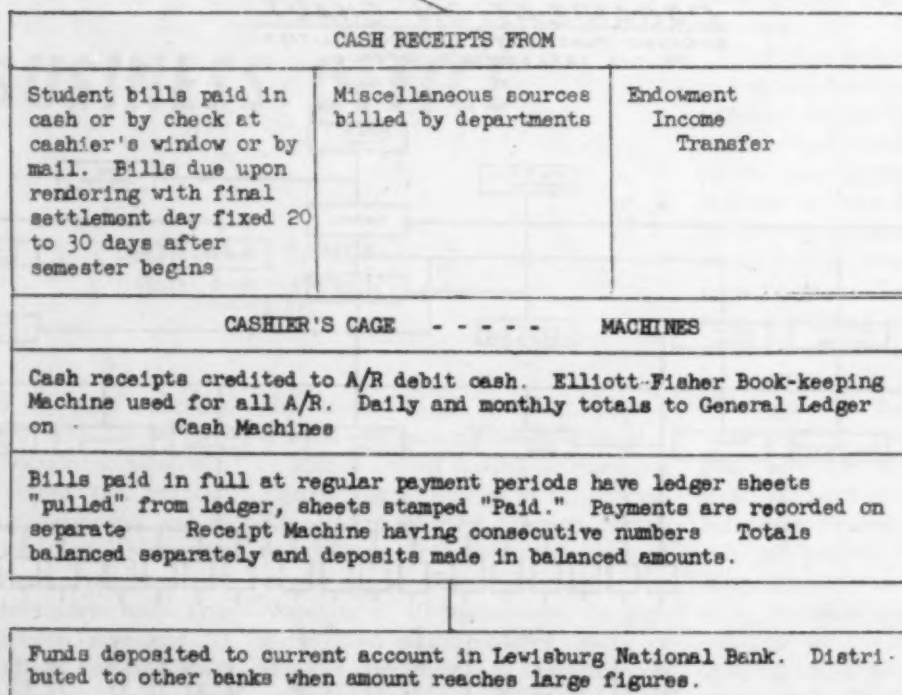
The board of trustees is the ultimate authority, and the president is the board's executive officer on the campus. While the treasurer is an elec-

### BUCKNELL UNIVERSITY ORGANIZATION CHART SHOWING FUNCTIONS & RESPONSIBILITIES OF THE TREASURER'S OFFICE

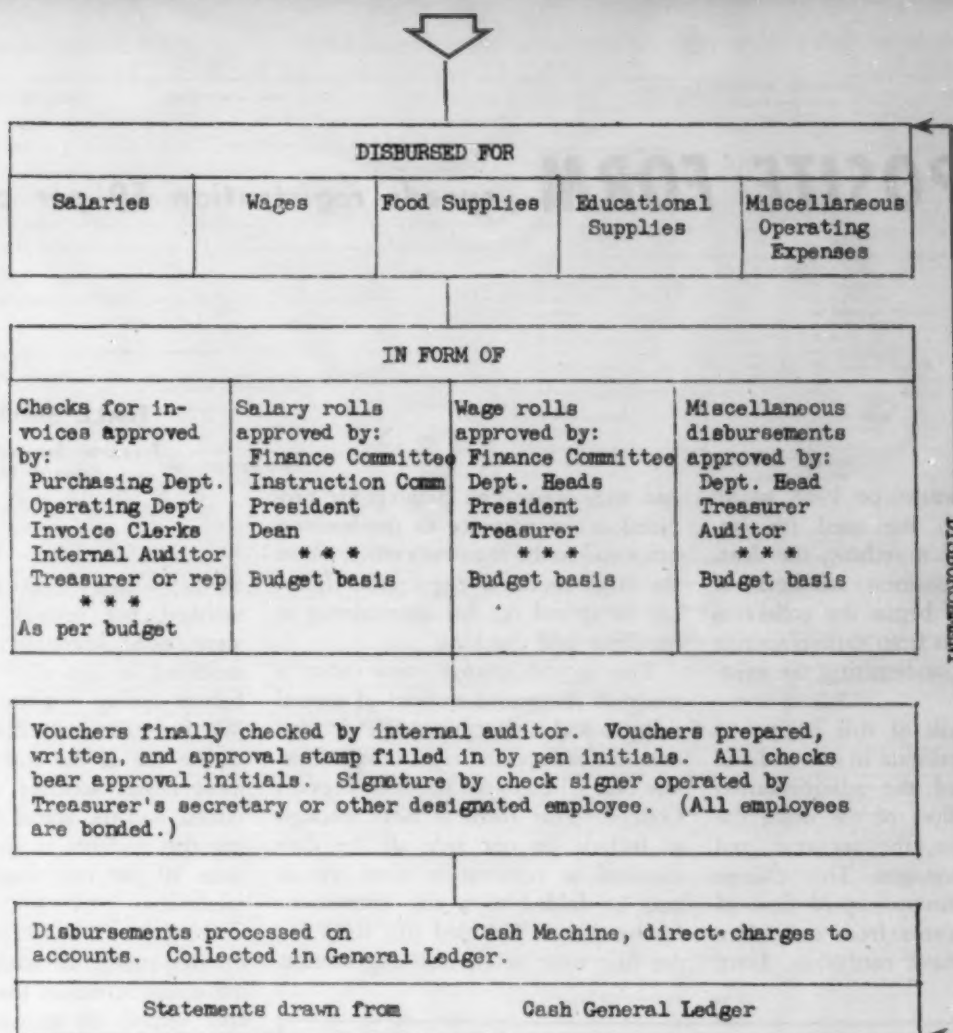




INCOME







tive officer of the board and is a member ex officio of that body, he is directly responsible to the president. There must be complete harmony and cooperation among officers or efficiency suffers.

Through a process of development the treasurer is, in fact, the business officer of the college. The farm manager, the superintendents and heads of the several auxiliary operating units report to him. The immediate responsibility for the functioning of the office is lodged in five or six individuals, as shown on the organization chart. The office manager is responsible for all cash and student accounts, as well as for the office personnel and the supervision and flow of the current work generally.

The purchasing agent is responsible for centralized purchasing and for supervision over dining and residence halls. The assistant comptroller is charged with the responsibility for the capital accounts, student organization fund, and supervision of the general accounting setup. The internal auditor has the last check on all disbursements

and, of necessity, must have a broad knowledge of operating accounts and a memory that will ease the functioning of the multitude of daily activities. The individuals who are responsible for supervising salary, wage and budget items fill an important phase of the activities and naturally work closely with the internal auditor. The secretary to the treasurer must be familiar with the office activities and have a broad knowledge of the institution's patrons, trustees and friends, for upon her rests the responsibility for freeing the treasurer of details in order that he may be available for the assignments and conference calls that regularly are made upon him.

#### PROGRAM NOT PERFECT

The organization described here grew out of the demands of a growing institution with limited funds, a situation common to many educational institutions. The program is not a perfect one by any means. If Bucknell had access to larger funds, the office organization would be expanded moderately and certain additional records

kept and services rendered. The ideal arrangement would probably be to divide the work among several more key members or supervisors in order that the treasurer might be free for longer-range planning of both the service facilities and the financial programs. Instead, the situation must be met as it presents itself and the organization planned accordingly.

A final word should be said about the office personnel. All key members have been in the employ of the university for periods ranging from 12 to 25 years. Not only do they perform their duties with efficiency, but they work together in a spirit of harmony that truly is remarkable. I consider that the best service I have rendered the college has been to bring together a personnel of the highest order. Through the service of this organization it has been possible for me to carry on my greatly increased duties and yet keep in touch with the several phases of the activities of the office and, in most instances, exercise the quality of patience that the position demands.

# COMPOSITE FORM *speeds registration 50 per cent*

**HALL SMITH Jr.**

Treasurer, Brevard College  
Brevard, N.C.

DURING THE SPRING OF 1948, BEING confronted with the need for improved registration technic, the dean, registrar and business manager of Brevard College began the collection and study of ideas from various sources with a view to modernizing the existing procedure.

The first result of this study was the decision to relocate in one end and on one floor of the administration building the offices of the dean, the guidance director, the registrar, and the business manager. This change resulted in an uninterrupted flow of the line of students from one office to the next without confusion. Long

and wide waist-high counters are provided at the entrance to the business office and to the registrar's office, where the large sheets of registration forms can be spread out for convenience in handling and checking.

The second change came after a study of the record systems of several colleges and universities. We decided that the composite registration form was best suited to the needs of Brevard College. This form is large enough to include on one side all the data required at registration time, yet it may be folded to a size convenient for handling. We used this form for the first time at the fall registration

in September 1948 and were well satisfied, but several minor changes were found advisable. The form was modified in line with our experience before spring registration this year. We find that our efforts are justified in the use of the composite form, as more nearly accurate records are obtained, and the actual work of enrolling the students is speeded by more than 50 per cent over the previous method.

Cards 5 by 8 inches are provided for the registrar, the student's schedule, the dean's schedule, the dean's attendance record, the personnel office, the business office, and the student's receipt copy of the charges. Twelve class cards, 2½ by 3 inches, are provided to fill out the remainder of the form. This may seem an excessive number of class cards, but in our case, with a large number of music classes, some of which carry only one hour credit, the full number may be used. No extra cost is involved as the form is printed on stock size bristol board of a quality suitable for records. The over-all size of the form is 15 by 25 inches, and it is perforated for division into the cards described. Perforations are large enough for ease in separation and not so large as to cause premature division. Space is provided on each card for numbering for control. Numbers are inserted with a lever-set numbering machine after the form is received from the printer. A fresh series of numbers is started for each registration.

Mass instruction is given the students in assembly regarding the general method to be used in completing the form, emphasizing the fact that no part of it is to be detached by the student. Students receive from the registrar's office a legal sized manila folder containing the registration form

## INSTRUCTIONS FOR REGISTRATION

1—All aptitude, placement, and similar tests must be completed under the direction of the guidance director prior to registration.

2—Report to the faculty adviser on whose list your name appears on the bulletin board. The adviser will assist you in selection of courses and completion of the registration form. The adviser will assist you in selection of those courses which are required by the four-year institution of your choice, or else those courses desirable for only two years of college work.

3—With the assistance of the adviser you will fill out the trial schedule sheet, using the schedule of courses as a guide. When the selection of courses is complete you will fill out the class cards, one for each course, and take them to the teacher of the course for approval and signing. (If there is only one section of a course, go to that teacher first, as the class will be closed as soon as the enrollment is filled.) Fill out the spaces for names and addresses on all cards, last name first; print carefully in ink.

4—When all class cards have been completed and approved, transfer the schedule from the trial schedule sheet to the attendance card, the personnel card, and the two schedule cards.

5—When the form is completely filled out you will take it to the business office where the charges for the semester will be entered on the "business office" and "student's receipt" cards. Payment will be made at this time unless previously paid. The form will be returned to you with business office card detached.

6—The form is presented next at the registrar's office. When the form is checked and approved your copy of the schedule and receipt cards will be returned.

7—Any change in course or section after passing through the registrar's office must be made through the office of the dean.

8—Do not detach any part of the form yourself. If a class card is spoiled, mark it out and use another. If the form becomes unusable, return it to the registrar and get another. The form must be intact when brought to the business office, and at the registrar's office only the card for the business office may be detached.

**BREVIARD COLLEGE**  
**SCHEDULE**

<b>Name _____</b>			<b>First _____ Middle _____</b>		<b>Last _____</b>		<b>NO.</b> _____
<b>Dormitory and Room Number _____</b>			<b>Telephone _____</b>				
<b>OR</b>							
<b>Brevard Street Address _____</b>			<b>Total Semester Hours _____</b>				
<b>Date _____</b>		<b>Semester _____</b>		<b>Chapel Seat _____ Sect _____</b>		<b>Room _____ No. _____</b>	

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sun.	M.T.
1							
2							
3							
4							
5							
6							
7							

[illegible][illegible][illegible]

<b>BREVARD COLLEGE</b> <b>BUSINESS OFFICE</b>		NO. _____  DATE _____
NAME _____	FIRST _____	MIDDLE _____
DORMITORY AND ROOM NUMBER _____ OR BREVARD STREET ADDRESS _____		
PARENT'S OR GUARDIAN'S FULL NAME _____		
PARENT'S OR GUARDIAN'S FULL ADDRESS _____		
DATE _____		

BREVARD COLLEGE		
STUDENT'S RECEIPT		
Name _____	First _____	Middle _____
UNIVERSITY AND ROOM NUMBER _____ OR BREVARD STREET ADDRESS _____		
FATHER'S OR GUARDIAN'S FULL NAME _____		
FATHER'S OR GUARDIAN'S FULL ADDRESS _____		
DATE _____ REGISTER _____		

CHARGES	
1. GENERAL FEE _____ \$ _____ 2. TUITION _____ 3. BOARD _____ 4. BOARD _____ 5. BREAKAGE _____ 6. MUSIC _____ 7. PRACTICE FEE _____ 8. READING FEE _____ 9. SCIENCE LABORATORY FEE (STATE FUND) _____ 10. MORE ECONOMY _____	11. TYPENOTING FEE _____ \$ _____ 12. ACCOUNTING _____ 13. SECRETARIAL PRACTICE _____ 14. OFFICE MACHINES _____ 15. ART _____ 16. _____ 17. _____ 18. _____ 19. _____ 20. _____  TOTAL DUE _____ PAID (DATE) _____ BALANCE DUE _____

No. _____		No. _____	
<b>BREVARD COLLEGE</b>		<b>BREVARD COLLEGE</b>	
Admit _____		Admit _____	
To _____		To _____	
Section _____	Day _____	Section _____	Day _____
Period _____		Period _____	
Date _____	Advice _____	Date _____	Advice _____
No. _____		No. _____	
<b>BREVARD COLLEGE</b>		<b>BREVARD COLLEGE</b>	
Admit _____		Admit _____	
To _____		To _____	
Section _____	Day _____	Section _____	Day _____
Period _____		Period _____	
Date _____	Advice _____	Date _____	Advice _____

No. _____		No. _____	
<b>BREVARD COLLEGE</b>		<b>BREVARD COLLEGE</b>	
APPLY _____		APPLY _____	
TO _____		TO _____	
SECTION _____ DAY _____ PERIOD _____		SECTION _____ DAY _____ PERIOD _____	
DATE _____ ADDRESS _____		DATE _____ ADDRESS _____	

No. _____  <b>BREVARD COLLEGE</b>  ADMIT _____  To _____  SECTION _____ DAY _____ PERIOD _____  DATE _____ ADVISE _____  No. _____  <b>BREVARD COLLEGE</b>  ADMIT _____  To _____  SECTION _____ DAY _____ PERIOD _____  DATE _____ ADVISE _____  No. _____	No. _____  <b>BREVARD COLLEGE</b>  ADMIT _____  To _____  SECTION _____ DAY _____ PERIOD _____  DATE _____ ADVISE _____  No. _____  <b>BREVARD COLLEGE</b>  ADMIT _____  To _____  SECTION _____ DAY _____ PERIOD _____  DATE _____ ADVISE _____  No. _____
---	---



## TRIAL SCHEDULE SHEET

PERIOD	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	ROOM M.W	ROOM T.T.S.
10:00	CHAPEL							
12:30	LUNCH							

folded to fit, a trial schedule sheet, a schedule of all courses being offered, and a sheet of detailed instructions.

An alphabetical list of anticipated enrollees is previously prepared by the registrar and, as a folder is issued, the number on the form is recorded opposite the student's name on the list. In this way, control is maintained on the issue of forms, and their return is assured. The numbers also identify a card if the name of the student is inadvertently omitted and is not noticed until the cards are separated for sorting.

### TRIAL SCHEDULE PREPARED

The next step is the student's consultation with faculty advisers and the selection of courses. We consider this extremely important, both for students who plan to transfer to a four-year institution and for those who will terminate their formal education at the end of the sophomore year. After the courses are selected, a trial schedule is prepared on the sheet provided for this purpose.

When all conflicts have been eliminated, the student fills out the composite form, using the trial schedule as a guide. The spaces for names, addresses and other information are filled out on all the cards, and the two schedule cards are completed. The class cards are filled out and presented to the instructor of each course, or to someone delegated by him, for approval and signature.

The student then presents the intact form at the business office, where the charges for the term are entered on

the "business office" and "student's receipt" cards. At this time particular attention is paid to fees for laboratory, music and other extra charges noted from a review of the class and schedule cards. Payment of the charges due is collected at this time unless previously received. The card for the business office is detached from the form, and the remainder is returned to the student, who then goes to the office of the registrar. Upon presentation at the registrar's office the form is reviewed and classified by a member of the faculty and passed along to the registrar, who checks the form and, when approved, stamps "registration completed" on all the cards. He then detaches them and gives the student his copy of the schedule and receipt cards, retaining all the other cards for sorting and distribution.

### CARDS DISTRIBUTED

The registrar's card is filed, the dean's office receives the dean's copy of the schedule and attendance card, the director of guidance receives the personnel card, and the class cards are sorted according to teachers. The class cards are given to the instructors for making their class rolls, and no student is entered on the roll unless a properly certified card is received from the registrar.

Several distinct advantages have been apparent from the use of the composite form. One is that the form must be intact when presented at the business office; when presented at the registrar's office, only the business office card may be missing. This pre-

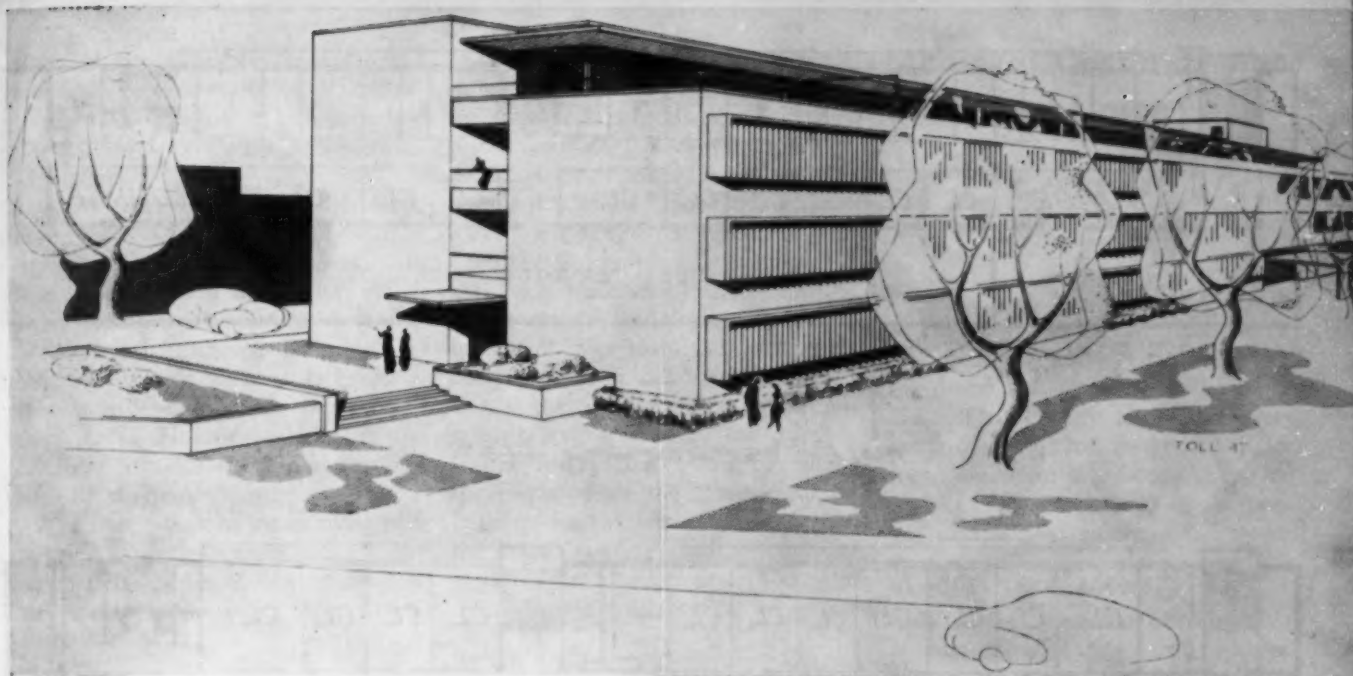
vents any misuse of the cards, especially unauthorized use of the class cards. The class cards are not handled again by the student after their receipt at the registrar's office but are sent from that office directly to the teachers. The teachers are instructed not to accept any card that is presented by a student.

### OTHER ADVANTAGES

Another advantage is that the cards for all offices are filled out by the students. This permits the cards to be alphabetized as soon as they are received without the necessity of transcribing so much information to the needed records. The objection to having the cards filled out by hand is overruled by the tremendous saving of time. Another advantage is that the form lies flat with all the information visible when presented at the various offices. No turning through a book or reversing the form to see what is written on the other side is required.

Of interest is the small cost of this form, which is of considerable importance in these days of budget watching. In lots of 1000, they cost us less than 10 cents each.

Our experience in two registrations using this composite form has been that we can complete the enrollment of the student body in less than half the time required previously for the actual work of registration. In addition, the various offices are saved at least two weeks' time formerly required for the accumulation and typing of the data needed by these offices for their records.



## THE FIRST ORDER OF BUSINESS

*in Denver's \$15,000,000 expansion program*

### RAYMOND FORER

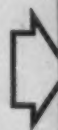
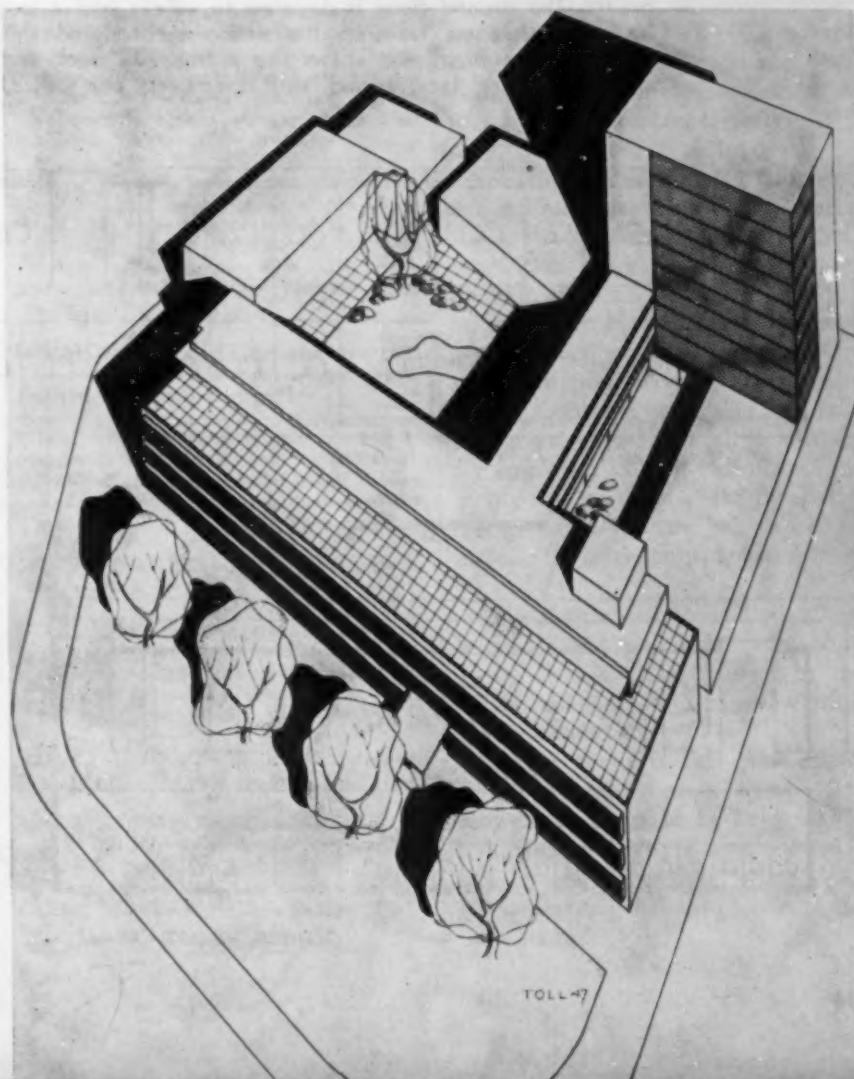
Assistant in Public Relations  
University of Denver

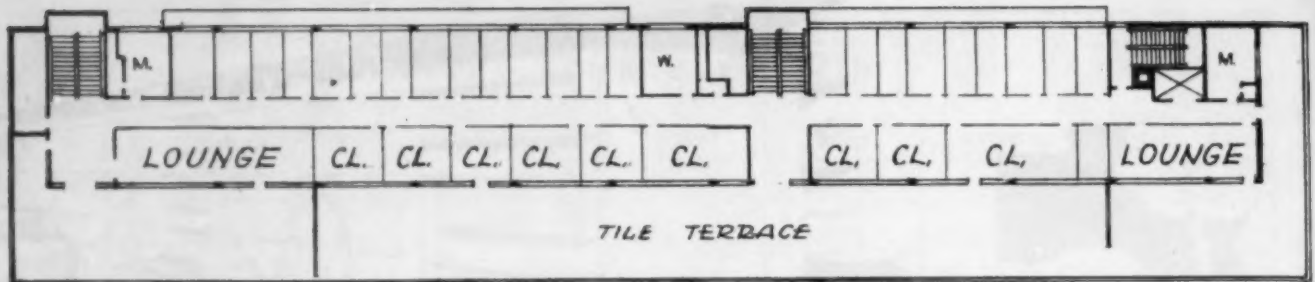
THE CORNERSTONE OF THE UNIVERSITY of Denver's \$1,250,000 college of business administration building was laid on March 5, which date also marked the 85th anniversary of the founding of the university.

The college of business administration, the first of the priority buildings to be built as part of the university's eight-year \$15,000,000 expansion program, will be ready for the 1950 winter quarter. This newest classroom building, capable of serving 2800 students an hour, is the first unit in an over-all plan to develop the entire block. The buildings will rim the outer body of the block; the court formed inside will serve as a patio campus.

The complete university development on the Civic Center site will eventually house, in addition to the college of business administration, a college of law, a fine arts school, a library, men's and women's residence halls, a dining hall, a college union, a gymnasium, an auditorium as part of the university theater, assembly facilities, and radio-television studios.

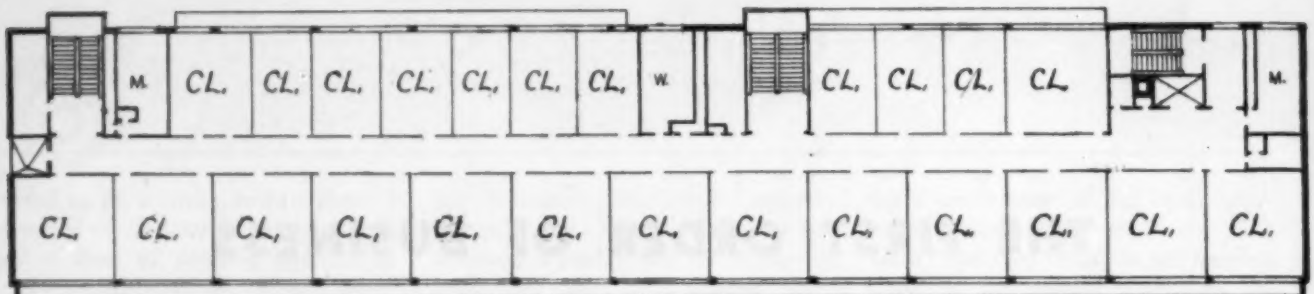
The four-floor classroom building is designed in a rectangular shape. Its





4TH FLOOR PLAN

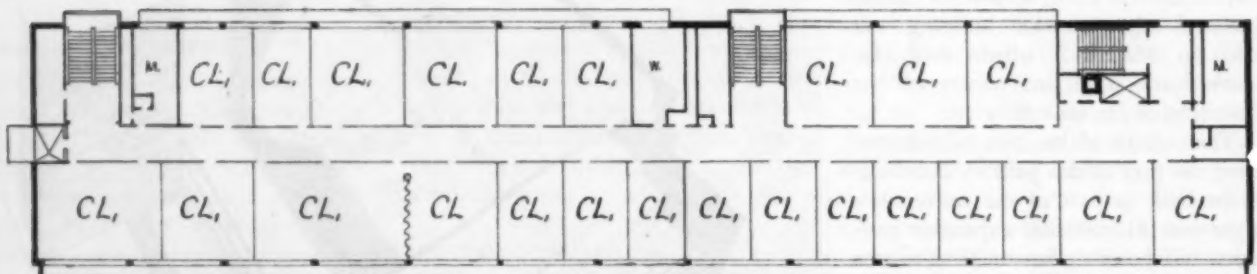
SCALE 0 10 20 30 40 FEET



3RD FLOOR PLAN

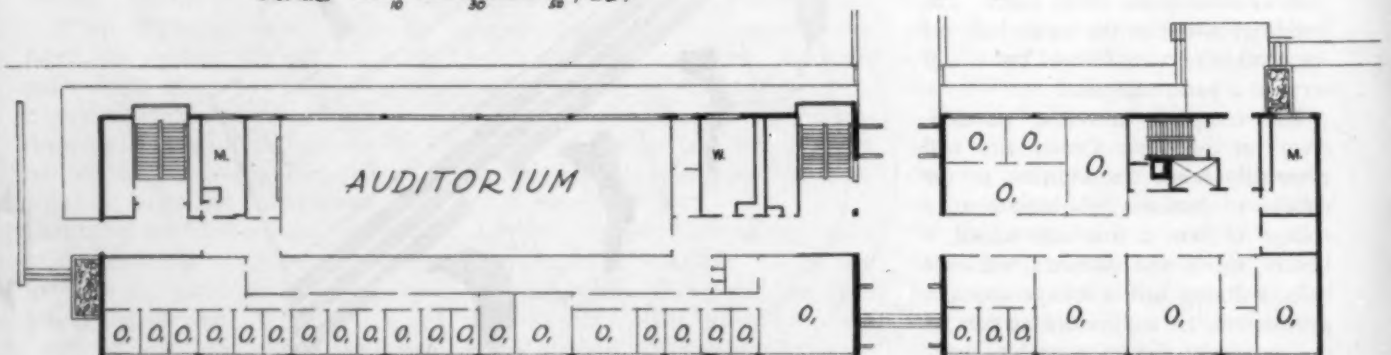
# COLLEGE OF BUSINESS ADMINISTRATION BUILDING AT THE UNIVERSITY OF DENVER

The ground floor is devoted to offices and a large auditorium. Classrooms take up the entire second and third floors. The fourth floor plan shows the promenade deck and two lounges, one for faculty and staff members, the other for students.



2ND FLOOR PLAN

SCALE 0 10 20 30 40 FEET



GROUND FLOOR PLAN



frame of steel is fireproofed with concrete—its exterior walls are of hollow tile faced with a 4 inch limestone exterior; the spandrel walls, below grade, are concrete.

Classrooms will be accordion-like; movable steel partitions will permit adjustment to student numbers. All will have electrical outlets for visual aid equipment. The flexibility of the fluorescent lighting system, as well as other eye savers, such as large glass areas and "eyebrows" for sun protection, places the new building in the forefront of educational institutions built for student comfort.

The fourth floor of the building will be used as a promenade deck. It includes two lounges, one for faculty and staff members, the other for students.

The window corrugations which are shown in the artist's rendering at the top of page 13 are aluminum louvers placed vertically. They were planned to cut down direct sunlight and yet permit maximum natural light. These louvers will not be placed until a later date, but the building is planned for their easy placement.

The artist's bird's-eye view at the bottom of page 13 of the civic center campus as it will look when completed shows the college of business administration, now under construction, in the foreground. Future buildings contemplated are the library and law building on the left and the theater, the large building casting the huge shadow in the background. The patio in the center will serve as a campus.

## CONSTRUCTION DETAILS

**FLOORS:** Reinforced concrete rib and slab with hollow clay tile fillers.

**INTERIOR PARTITIONS:** Permanent, hollow tile; movable metal.

**WINDOWS:** Air awning type except on deck—there immediate projected.

**STAIRWAYS:** Reinforced concrete.

**ROOFS:** Concrete slabs with lightweight concrete fill to obtain pitch, covered with built-up roofing.

**COPINGS:** Limestone.

**OVERHANGS:** Reinforced concrete.

**DOORS:** Entrances of hollow metal; service areas and fire stair, kalamein; metal partitions, hollow metal; others, birch and fir.

**FLOORINGS:** Basement, cement; first, second and third floors, deep brown-red asphalt tile; stair halls and entrance halls, terrazzo; toilets, terrazzo with green marble aggregate.

**WALLS:** Basement, generally unfinished; employees' rooms, glazed tile units, buff color; stair halls, glazed tile units, buff color; toilet partitions, metal.

Other floors, permanent walls and partitions, plaster, metal base; metal partitions, light gray-green; toilets, ceramic tile wainscot 6 feet high, 4 by 4 inch units, mat finish, light green; plaster above wainscot; gray marble stall partitions and baffles; terrazzo base.

Stair halls, ceramic tile wainscot, gloss finish, very light buff; plaster above wainscot; terrazzo base.

Entrance hall, Colorado travertine facing from base to ceiling; terrazzo base.

**CEILING:** Basement, generally unfinished. Other floors, generally 12 by 12 inch acoustical tile; where liable to weather damage, asbestos; toilets, plaster.

**HEATING:** System, forced steam-heated air with steam radiators in stairs, toilets and entrances.

**SOUND SYSTEM:** Public address system from dean's office to all four floors.

**LIGHTING:** Generally, fluorescent fixtures.

**EQUIPMENT:** Boilers, two with 12,000 square feet of steam radiation each; vacuum pump system; blower, double inlet with capacity of 95,000 cubic feet of air per minute against a 2 inch static pressure; filters, 20 by 20 by 4 inch spun glass, located at fresh air intake; coils, heating in basement, seven 21 tube sections; booster, on each floor—three to each floor and varying in size; air washer, complete with pump; germicidal lamps, in air intake chamber; pipe, steam mains insulated, returns not insulated; system designed to blow a blanket of warm air over the large window areas.

**VENTILATION:** Blower system of heating unit; air may be exhausted at top of return riser rather than returned to system. Designed for air conditioning at later date. Toilets, blowers with 3700 cubic feet capacity. One fan to each three toilets.

**ELEVATOR:** 9½ by 5½ foot platform; 5000 lb. capacity; 150 feet per minute speed, selective, collective operation.

**KITCHEN:** One small kitchen at end of assembly hall (west end of building), provided for an installation of coffee equipment, light cooking and sandwich making.

**SPECIAL FEATURES:** Use of heat absorbing glass in windows.

**COST:** Steel (including erection), \$97,800; estimated completed cost, \$1,177,000; razing costs, \$8,300; total, \$1,283,100. Architect's fee and site, not included; per cubic foot, \$1.55.

**ASSOCIATED ARCHITECTS:** G. Meredith Musick; Smith, Hegner & Moore.

**UNIVERSITY SUPERINTENDENT OF CONSTRUCTION:** Raymond J. Helt; assistant, John S. Swartz.

**CLERK OF WORKS:** C. G. Pelley.

**ARCHITECT OF JOB:** Paul Radar.

## Medieval Castle Theme of Student Union

**C. W. PRIES**

Business Manager, Wartburg College  
Waverly, Iowa

WARTBURG CASTLE, AN OLD MEDIEVAL castle in Thuringen, Germany, is the theme for Wartburg College's social hall in Waverly, Iowa. Like every castle of old, it had its great hall for social functions; Wartburg College has its Castle Den, which serves the campus as a student union.

### REMODEL THREE ROOMS

What was once the furnace room, laundry room, and a small gym on the ground floor of the girls' residence hall is now the social center, consisting of a lunchroom, called the "Den," a game room, bookstore and post office. The Den itself measures 50 by 22 feet. The lower section of its walls is covered with knotty pine; the ceiling is finished with acoustic tile, and the floor is black, gray and red rubber tile.

The curved snack bar at the west end of the Den has 10 counter stools; at the opposite end are 10 modernistic tables, each accommodating four chairs. The adjoining kitchen, with its modern equipment, measures 12½ by 15 feet.

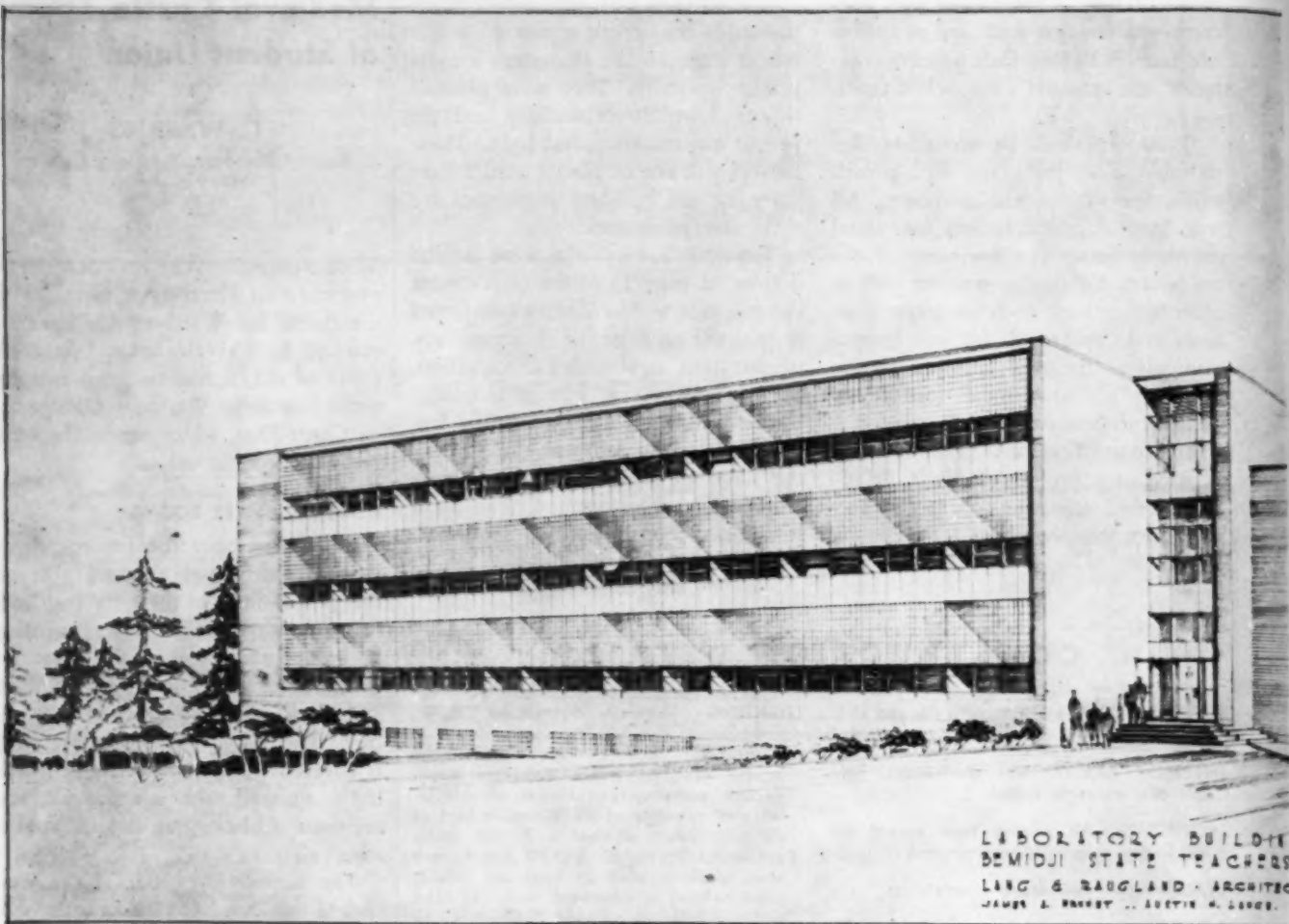
Off-campus students, staff members, and visitors eat in the Den, where the menu consists of plate lunches, sandwiches, salads, pie, ice cream, and fountain drinks.

Except for the breakfast, lunch and supper hours, when waiters and waitresses do the serving, it is self-service from the snack bar. A full-time manager and two full-time cooks are employed, as well as students for service and janitorial work. By adding several tables for two, we expect to increase the seating capacity soon from 50 to 60.

Adjoining the Den is the college bookstore and post office, measuring 16 by 16 feet. It is operated by the school and employs a full-time manager and student help.

To the south is the game room, furnished with modern lounge furniture. The room, 32 by 22½ feet in dimension, follows the same decorative style as that of the Den.

One central hallway connects the three rooms.



## MULTISTORY BUILDING *serves state teachers college as*

ONE OF THE MAJOR PROBLEMS CONFRONTING a growing state supported college whose major function is teacher education is the amount and nature of the physical plant to be allocated to its laboratory school.

At Bemidji State Teachers College, a northern Minnesota school with a 1949 collegiate enrollment of about 600, the laboratory school had shared space with other college divisions in three buildings, the homerooms being housed in one wing of an L-shaped college administration and classroom building, the physical education and industrial education facilities being shared with college classes in a second building, and the children's library occupying a special unit in a third build-

ing, a new college library recently completed. The laboratory school has an enrollment of 250 in grades from kindergarten through the ninth.

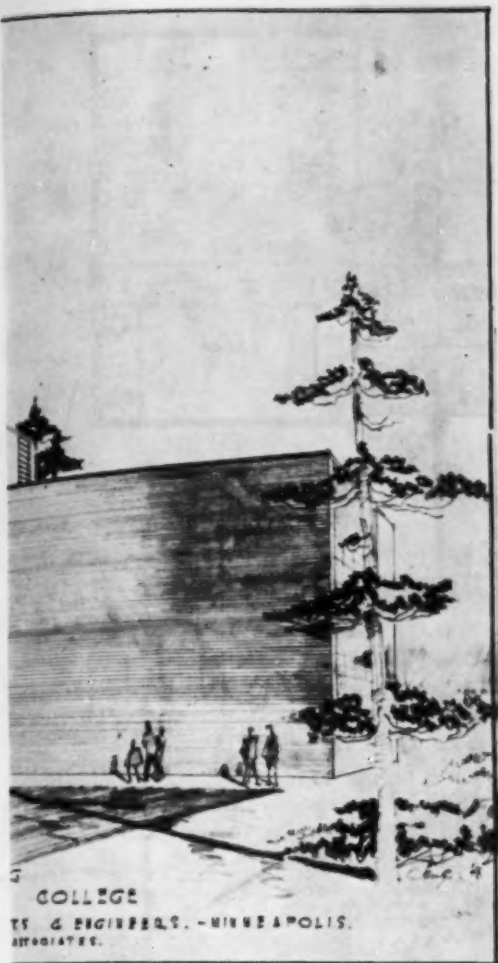
### SPACE FOR SPECIAL FIELDS

In planning the college expansion program, it was deemed advisable to construct a new laboratory school that would include space for the special fields. This would permit college classroom and laboratory use of the space in the main building vacated by the laboratory school and would also release time in shops, gymnasium and apparatus rooms for additional college classes.

A second major problem involved adjusting the needs of a strong teacher

education program in a new laboratory school to the money appropriated by the state legislature for building construction. As it was desired that this building should serve as an educational and architectural example for schools in northern Minnesota, every effort was made to have it self-contained. However, as is so oftentimes the case, there were not sufficient funds to accomplish this objective fully. Inasmuch as a complete children's unit had been provided in the new college library, it was decided to defer this item.

Another problem that had to be worked out with our architects, Lang and Raugland of Minnesota, was the type of building. It was deemed advisable to have the building depart-



## DETAILS OF CONSTRUCTION

**CONSTRUCTION:** Completely fireproof, with reinforced concrete structural frame throughout. Exterior, brick with steel sash and directional glass block panels above set in channel frames. Spandrels, aluminum with aluminum window sills and aluminum entrance frames and entrance doors. Interior partitions, tile plastered with acoustic tile ceilings. Doorways, hollow metal frames and trim with oak doors and oak woodwork. Stairways, reinforced concrete with reinforced handrails. Windows, projecting type with hopper section in the lower half, awning sections in the upper portion.

**HEATING AND VENTILATING:** Convectors built in under window bookcases in classrooms. Individual ventilation provided in each classroom with separate temperature control for each. Convectors throughout building, with ventilation through units in locker rooms, playroom, dramatic arts room, shops and toilets. Steam provided from central heating plant, which has an addition for the added boiler for heating this building, all a part of this contract.

**LIGHTING:** Fluorescent throughout interior; incandescent in shops and for exterior fixtures.

**FLOORING:** Classrooms, light colored asphalt tile and black base; corridors, rubber tile with terrazzo treads and risers on stairways.

**KITCHEN:** Cafeteria kitchen, stainless steel fixtures; small model kitchen provided for pupil instruction and faculty use.

**WALLS:** Plastered throughout, with bright-pigmented colors in all classrooms. Corridor walls have glazed tile wainscots 5 feet high.

**COSTS:** Total contracts, approximately \$585,000. This includes an addition to central heating plant and new transformers and transformer vault. Cubic foot cost, \$0.81, with cost of structure itself complete, with no utilities noted above, approximately \$0.75 to \$0.77 per cubic foot, not including fees, site or equipment.

**CEILINGS:** Acoustic tile throughout classrooms; corridors and offices, absorption coefficient of 70 per cent. Metal acoustic tile in kitchen; cement plaster in locker and shower rooms.

# LABORATORY SCHOOL

## JOHN S. GLAS

Business Manager  
Bemidji State Teachers College

## GORDON M. A. MORK

Chairman, Division of Education  
Bemidji State Teachers College

mentalized and not to be more than two stories. However, a careful analysis of construction costs and the continuing higher cost of heating, a major problem in northern Minnesota, indicated the advantages of a multistory building.

In order to departmentalize by floors, a plan was developed that provided for three floors and a semibasement. In the basement, provision was made for physical education, industrial education, showers and locker rooms, and storage. The first floor houses the kindergarten and primary grades, the second floor the intermediate grades, and the top floor the junior high school. Plans of the ground floor, as well as the first and second floor plans,

are shown on the following page. The gymnasium, cafeteria and auditorium-dramatic arts room are housed in a three-story attached wing.

### ENROLLMENTS RESTRICTED

In the detail planning, major consideration was given to the classroom units. Every effort was made to make each grade as nearly complete a work unit as was possible. Enrollments are restricted to 25 pupils for each grade. In order to ensure adequate space for the demonstration and practice of good teaching technics, exceptionally large classroom areas have been provided. These classroom units include a large classroom, a workroom, a coatroom and teacher's office, all self-contained. In

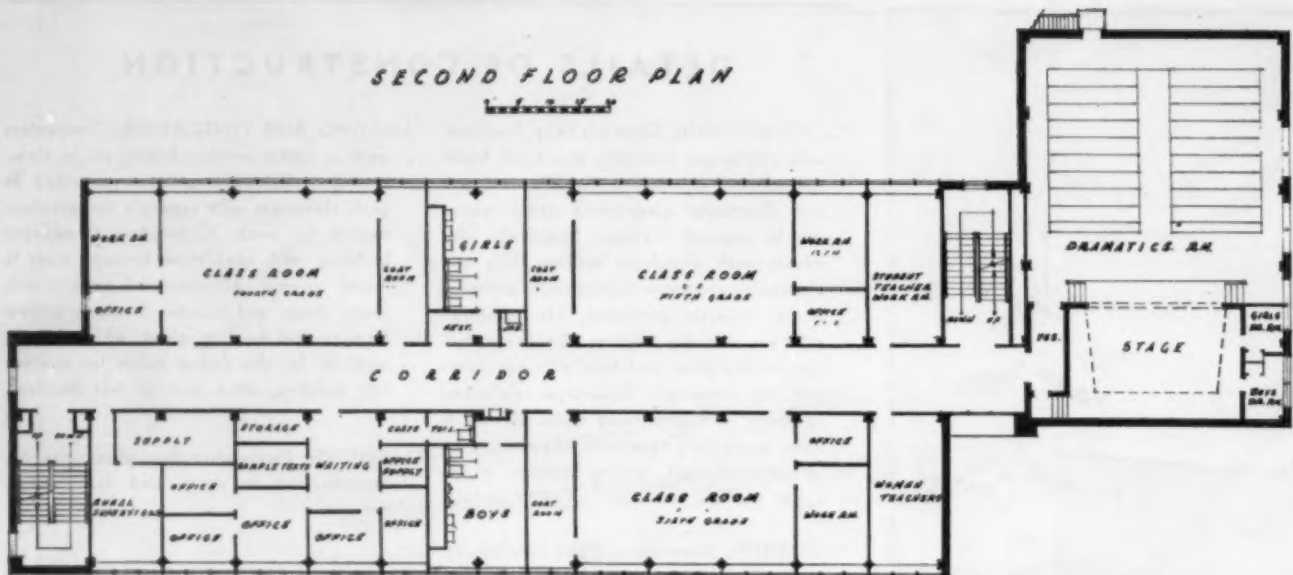
addition, the kindergarten and primary grades each has a two-toilet room in its unit. All required cupboards, shelves and storage areas are built in.

The plan provides for an exceptionally well set up industrial education area and a dramatic arts room apart from the language arts room.

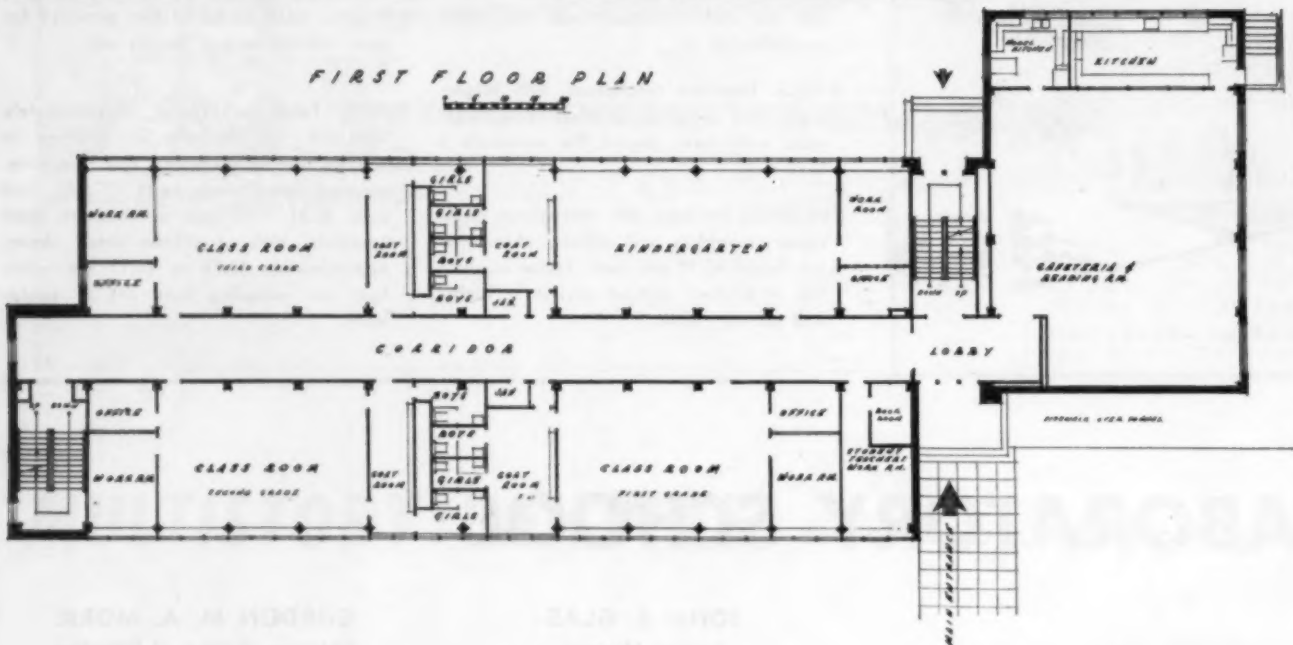
Additional features include: (1) provision for darkening all classrooms in order to facilitate the use of visual aids; (2) student-teacher workrooms on each floor; (3) acoustical treatment throughout all classrooms and corridors; (4) liberal use of directional glass blocks and glazed areas, ensuring adequate light; (5) green glass chalkboards, and (6) adequate provision for a hot lunch program for all pupils.



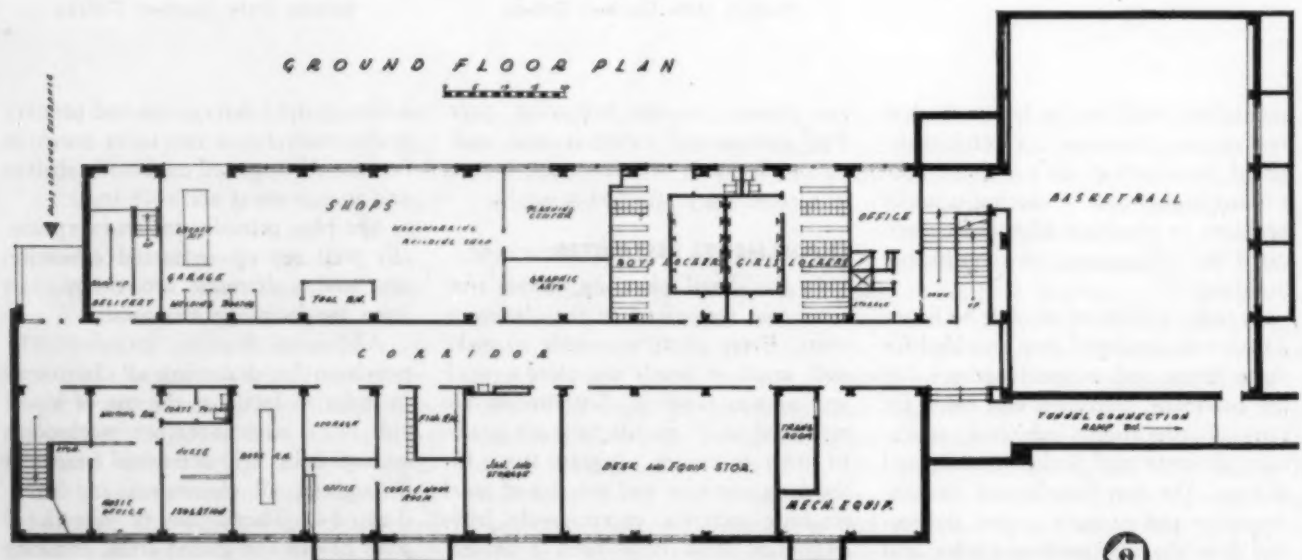
**Information**



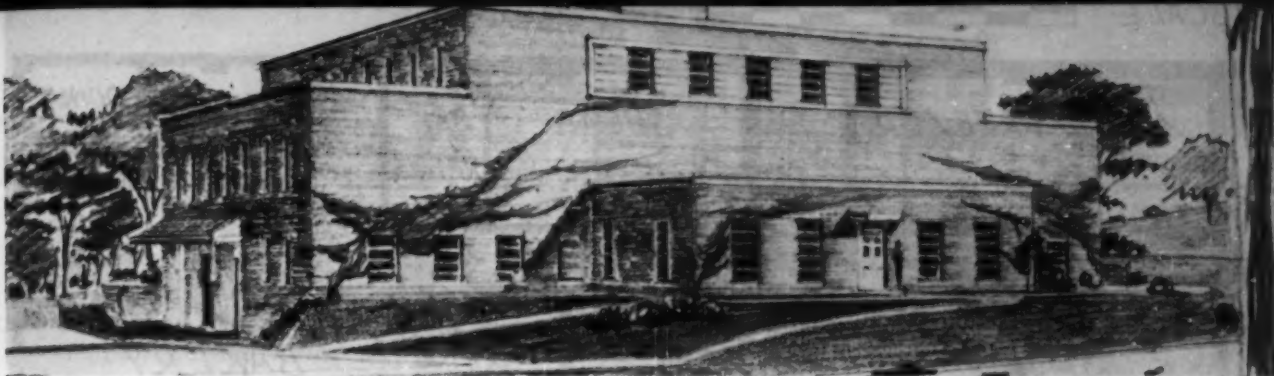
**Wiederholungsfragen**



XXXXXXXXXXXXXXXXXXXX



Ground, first and second floor plans of new laboratory building at Bemidji State Teachers College. Third floor (not shown) houses the junior high school grades.



## NEW FOODS BUILDING

*at Penn State helps to educate the students' taste*

WITH THE NUMBER OF STUDENTS eating in campus dining halls more than tripled since prewar days, the Pennsylvania State College is completely reorganizing its food service program.

Center of the new program is a foods building, now nearing completion, in which food supplies will be received and preliminary processing or storage will be handled before shipments are made to unit kitchens.

When the west dormitories dining hall for men, now under construction, is opened, meals will be served on the campus to more than 5400 students through six kitchen units. The new dining hall will serve 1600 men, and Nittany Dining Hall, completed in 1947, will serve 1800 men. McAllister Hall, Atherton Hall, Simmons Hall, and McElwain Hall will each serve meals to 500 women. Simmons Hall was opened last September, and McElwain Hall will be opened this fall.

The foods building will enable the college to operate its dining halls more efficiently and serve better meals to its students. It is not planned, however, that meals served in all dining halls will be uniform. Two or more food supervisors for each unit will plan the menus and requisition their food supplies from the foods building.

The new building is a red brick structure with Indiana limestone trim. It consists of three floors and is built in the shape of a Greek cross, the dimensions being 108 by 130 feet. It is located on the west campus and adjoins the Bellefonte Central Railroad line. A spur will be built from the line to the receiving platform. Near by is U.S. Route 322, and an entrance

### WOODROW W. BIERLY

Department of Public Information  
Pennsylvania State College

from this highway will facilitate shipments to the building by truck.

Inside the main entrance, which faces north and is on the ground floor, the visitor passes through the vestibule into the lobby. To the east will be the general office, and adjoining that will be the office of the supervisor of the foods building. The corridor turns to the east and leads to two more offices.

To the west of the lobby will be a unique experimental kitchen, or laboratory. Equipment in the kitchen will be identical to that used in the dormitory units. Here trained staff personnel will test cooking and baking recipes. Approved recipes will be passed along to all kitchens so that cooking in the residence halls is standardized at the peak of quality. The staff will also test canned goods to see that they meet the required specifications.

In one corner of this kitchen will be a table with wall seats around it, to be used for conferences.

South of the experimental kitchen will be a room, 56 by 80 feet, which will be used for the storage of canned goods. It will have a capacity of about 10 carloads of cased goods. Automatic controls will maintain the proper temperature.

To the east will be the shipping department, with an office for the shipping personnel adjoining the area. Two elevators and a spiral shoot, which are in the center of the building, will open into the shipping area, facilitating the movement of orders

from the upper floors. Doors to the shipping platform will be controlled by "electric eyes." Beyond the platform, space will be provided for the storage of the three vehicles that will be used in making the daily deliveries to the residence hall kitchen units.

Heating coils in the concrete driveway leading to the shipping platform will keep the drive dry and free of snow, thus eliminating problems caused by an icy drive and adding to the cleanliness of the shipping area.

The southern wing of the ground floor includes a bread wrapping room and space for utilities.

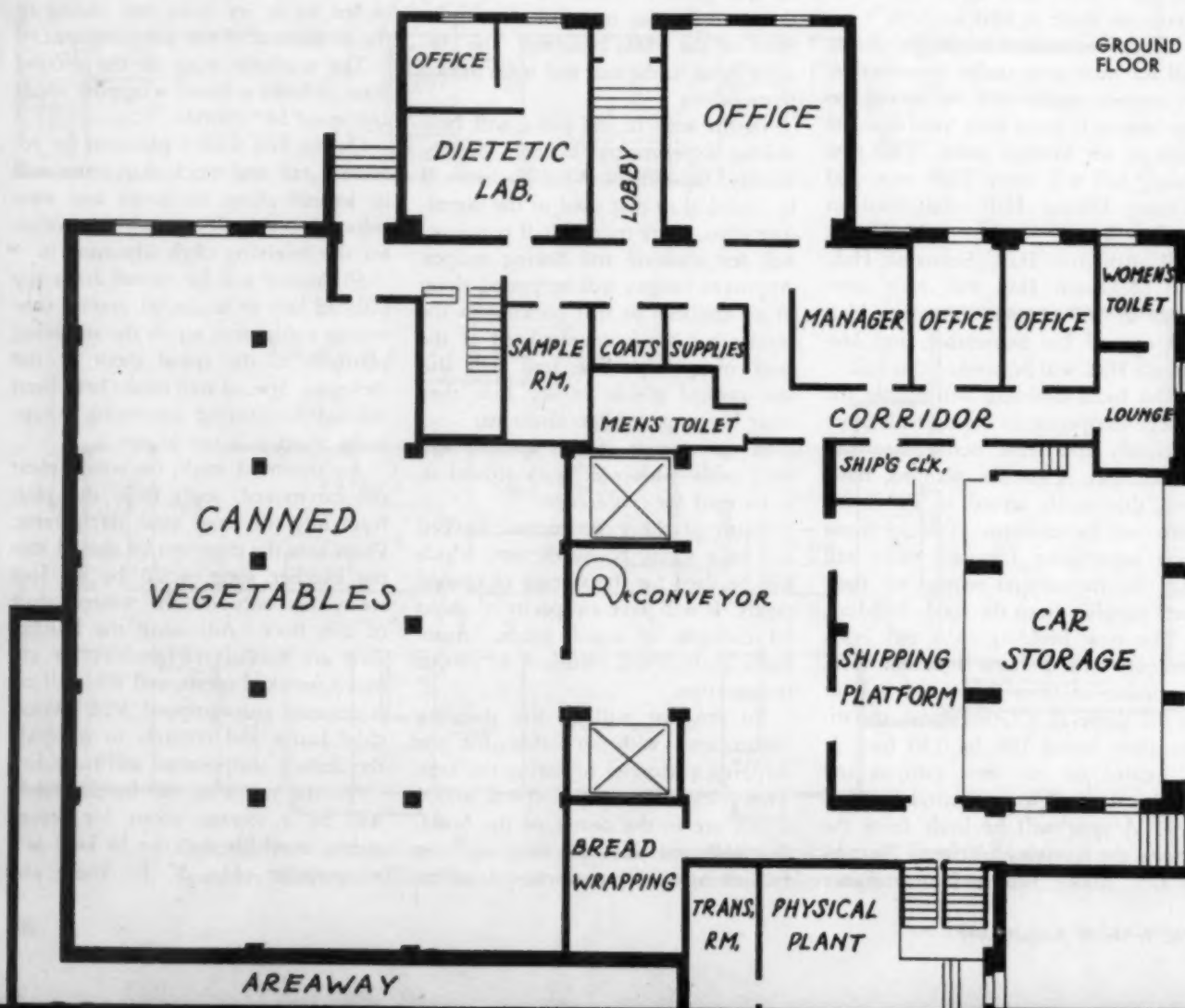
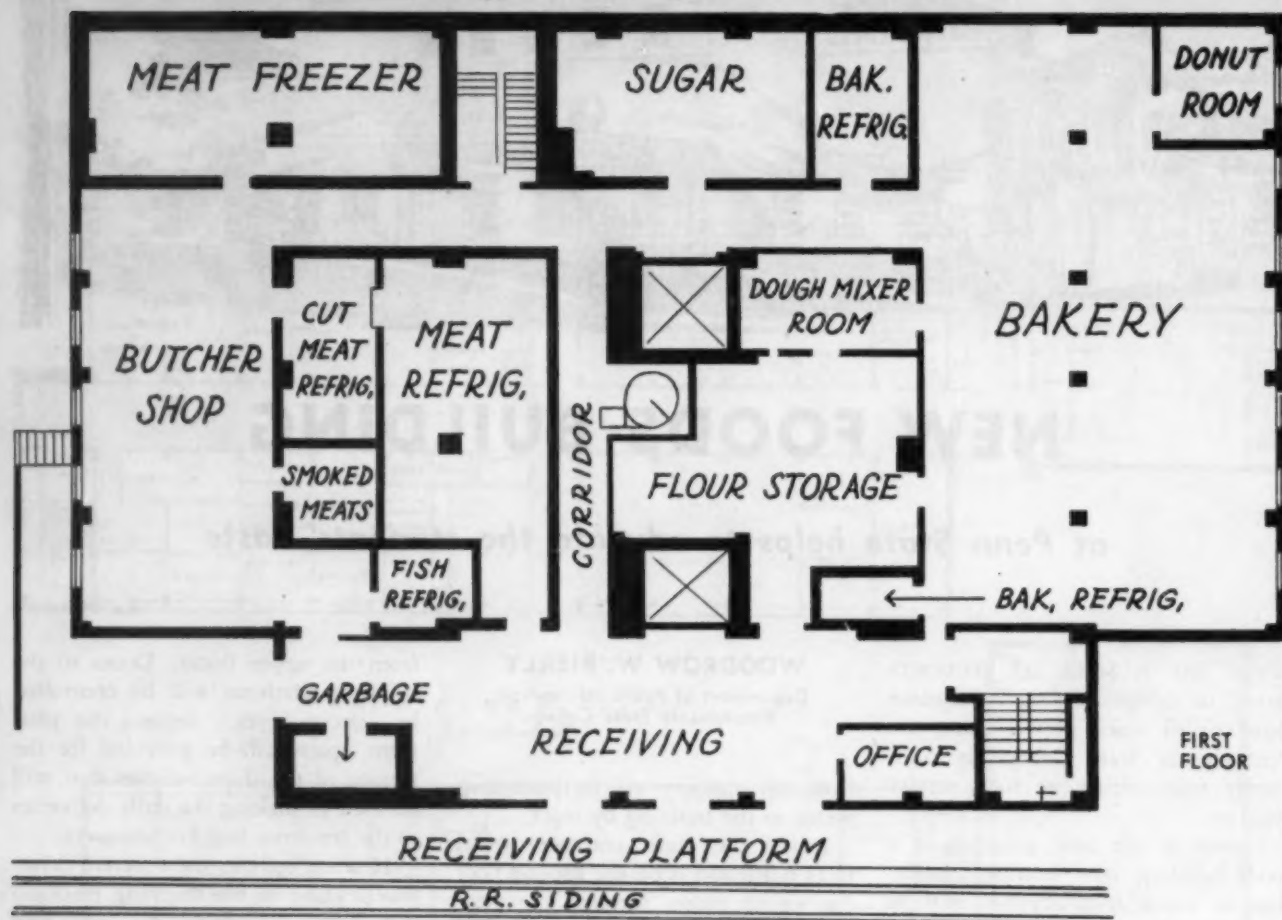
On the first floor a platform for receiving rail and truck shipments will be located along the south and west sides of the building, with an office for the receiving clerk adjoining it.

Shipments will be moved from the railroad cars or trucks on gravity conveying equipment across the receiving platform to the spiral shoot or the elevators. Special wall hooks have been devised for storing conveying equipment when it is not in use.

An overhead track, on which meat can be moved, leads from the platform into the large meat refrigerator. From here the meat can be moved into the butcher shop, a 20 by 46 foot room that occupies the western part of this floor. Adjoining the butcher shop are special refrigerators for cut meats, smoked meats, and fish. All refrigerators are equipped with germicidal lamps and controls to maintain the desired temperature and humidity.

To the north of the butcher shop will be a storage room for frozen meats, in which they can be kept at a temperature of  $-5^{\circ}$  F. There also

SCALE 10 30 50 FEET





will be provision for a  $-15^{\circ}$  air blast that can be used for quick-freezing meats. This will enable the butchers to cut meat and store it during slack periods, so that it will be ready for use during rush periods.

The east wing on the first floor houses the bakeshop, 40 by 65 feet. Here all baked goods, except soft desserts, will be prepared. Refrigerated storage facilities for flour are provided in an adjoining room. Equipment in the bakeshop includes a sifter with a storage capacity of three barrels. From the sifter, an elevator and top conveyor carry the flour into the mixing room.

The mixer is of the slow speed type; thus it will be possible to turn out a home-style loaf of bread. Since bread is one of the most popular items on the menu, especially in the men's dining halls, it is planned to produce a top quality loaf, rich with food nutrients.

Adjoining the bakery are two refrigerators that include facilities for retarding dough. Baking will be done in two gas-fired ovens. Other equipment includes a roll machine, a bread molder with a capacity for delivering 1000 loaves an hour, a fryer, a crust roller, and a cooky machine.

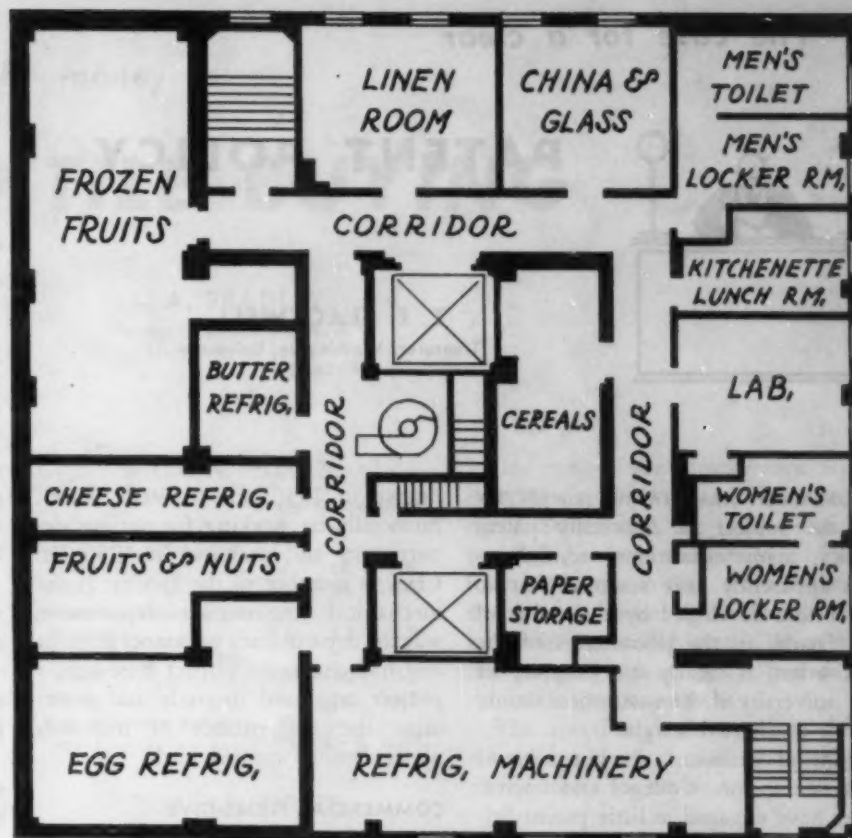
There also is a battery of steam cooking equipment, including a 40 gallon steam jacketed kettle of the trunnion type, an 80 gallon stationary steam jacketed kettle, and a candy stove. They will be used for preparing icings and fillings for the baked goods.

A small room adjoining the bakeshop offers facilities for making dough-nuts. The first floor also has a room for storing sugar, the room being equipped to maintain a desired temperature and humidity.

Linens used in the dining halls will be repaired in the linen room on the second floor of the foods building. The room also will be equipped with an automatic washing machine and drier for laundering utility rags used in the building.

On the second floor a kitchenette and lunchroom for employes will be equipped with a refrigerator, gas range, and cupboards. Here will be a place for employes to eat their lunches and make coffee. A locker room and toilet facilities also are on this floor.

In the west wing of the second floor will be a room for storing frozen fruits and vegetables. Provisions are made here for quick-freezing fruits and vegetables, a  $-15^{\circ}$  F. air blast



SCALE 0 10 20 30 40 50 FEET

#### SECOND FLOOR

being provided for that purpose. This will enable employes to freeze fruits while they are in season and also during slack periods. Refrigerator space for butter, cheese, eggs, fruits and nuts is provided on the second floor. Other storage facilities provide space for cereals, china, glassware and paper products.

The third floor of the building, a penthouse, consists of the elevator shafts and mechanism.

No provision was made in the foods building for storage of potatoes, since adequate space for potatoes is located elsewhere on the campus. The delivery trucks will be able to pick up the potatoes at this point and deliver them with other foods. There also has been no provision for making ice cream. Because the college creamery, operated by the department of dairy husbandry, now makes the ice cream used in the dining halls, it was decided not to duplicate this equipment.

To supervise this expanding program, which amounts to more than a \$2,000,000 business each school year, Penn State last year brought to the campus Mildred A. Baker, who had

been director of dining halls at the University of Arizona. Twenty-five persons will be employed in the foods building when operation gets underway. In addition to Miss Baker, who is supervisor of food service, there will be a foods buyer and supervisor, a supervisor of the experimental kitchen and bakeshop, a bookkeeper, and typists. Six persons will be employed in the bakeshop and three in the butcher shop. One man will head the receiving and shipping departments; additional men will be needed for the storage rooms.

Miss Baker sees her job as consisting of more than providing three square meals a day for each of 5400 students. She feels that the dining halls should contribute to the total educative process of students by operating according to the principles of food management and food nutrition taught formally in the classrooms on the campus. She believes that students who eat well balanced, nutritious meals during their four years in college will continue this habit. Thus, Penn State carries its education program, as well as breakfast, luncheon and dinner, into the dining halls of its campus residence halls.



## PATENT POLICY

T. E. BLACKWELL

Treasurer, Washington University  
St. Louis

FROM MUCH THAT HAS BEEN WRITTEN on the subject of university patent policy, many educational administrators apparently have assumed that an invention, developed by a member of the faculty in the laboratories of the institution, is clearly the property of the university if the institution should decide to assert this right.

Judicial decisions do not support this assumption. Colleges and universities have engaged in little patent litigation of record, but if we may draw upon the experience of industry in this field, the general rule seems to be well established that, in the absence of a prior agreement, an invention conceived by an employee in the course of his employment is his own property and not that of his employer.<sup>1</sup>

The only patent litigation of record involving an American institution of higher education is the California Institute of Technology case, decided by the Supreme Court of California in 1947.<sup>2</sup> Although the decision itself is concerned chiefly with the interpretation of an express rather than an implied assignment of patent royalties, the facts of the case are of sufficient interest to our general problem to merit discussion. The following is an excerpt from the opinion expressed by the court:

"Prior to 1934 the plaintiff attended the institute as a student, was graduated in 1934, and received his master's

degree in 1936. He assisted himself financially by working for various departments and persons. In 1936 Dr. Clark, a member of the faculty in the mechanical engineering department, was the department's personnel director and had charge of Impact Research, a project organized to study and determine the performance of materials under rapidly applied loads.

### COMMERCIAL FIRMS GIVE

"The project was in part sustained by contributions to the institute from commercial firms which were interested in the results of the experiments. A paid assistant in the department was Dr. Datwyler who, with Dr. Clark, was working at the time on the problem of devising a method of measuring and determining the force of time relations that occurred to metals during impact loading. For this purpose they utilized a known device—an impact dynamometer—for translating instantaneous forces into electrical impulses to be recorded by means of an oscillograph. Their problem was the procurement of some strain sensitive element that would make the device workable in the measurement of impacts.

"In the latter part of August 1936, they took their problem to the plaintiff, who by this time had acquired a reputation for ingenuity, was frequently consulted by both teachers and students, and gave freely of his advice without charge or pay. . . . The plaintiff was not in the employ of the defendant at the time and his services in this connection were given without compensation. . . .

"In the autumn of 1939, a representative of the Baldwin Locomotive Works went to the defendant's Impact Research Laboratory to negotiate for the issuance of a patent and the procurement of an exclusive license to utilize the plaintiff's invention.

"Baldwin's representative had observed the invention in use at Massachusetts Institute of Technology and had traced its origin to California and the plaintiff. He expressed the opinion that the little gauge, hardly larger than a postage stamp, would 'be stuck to practically everything' in order to know what was going on; that it was the 'safety pin' in its field insofar as invention was concerned. Aircraft companies were already applying the gauge to air frames and structures to discover distribution of pressures, thus leading to improvements in strength and lightness, and it appears that the use of the gauge would spread to every form of industry where dynamic application of forces was involved. . . .

"After some weeks of negotiations with Dr. Clark and with Baldwin . . . the plaintiff . . . signed an instrument . . . which reads in part: 'In consideration of my employment by the California Institute of Technology I agree . . . that the royalty on said invention shall be paid to the defendant unless I shall . . . request in writing that they shall . . . be paid to me.'"

Evidence in the trial court seemed to indicate that Dr. Clark had promised Simmons continuous employment as long as funds were available from commercial interests for use in the Impact Research project. Evidence was introduced tending to show that, despite the availability of funds, he was dismissed from the project. The trial court held that his agreement to assign his royalties had been induced by fraud and that he was entitled to a refund of all royalties received by the institute under the agreement. In the supreme court, the majority of the court refused to support the charge of fraud, but held that the failure of the institute to furnish permanent employment terminated the agreement and that Simmons was entitled to all royalties subsequent to his discharge. Judge Edmonds filed a strong dissent, holding that the plaintiff should recover all royalties received by the defendant on the theory that the agreements were induced by fraud.

The reluctance of the courts to grant an employer even shop rights in the inventions of his employees would seem to be compelling reason for the adoption of a clear, unambiguous patent policy by colleges and universities. If we desire to retain patent rights, the retained rights should be set forth in agreements drafted with the advice of counsel and signed in advance by faculty and employees engaged in research.

<sup>1</sup>Hagood v. Hewitt, 119 U.S. 226, 30 L. Ed. 369, 7 S. Ct. 193 (1886); Dalzell v. Dueber Watch Case Mfg. Co., 149 U.S. 315, 37 L. Ed. 749, 13 S. Ct. 886 (1893); United States v. Dubilier Condenser Corp., 289 U.S. 178, 77 L. Ed. 1114, 85 A.L.R. 1488, 53 S. Ct. 554 (1933); Heywood-Wakefield Co. v. Small, 87CF. (2d) 716, C.C.A. 1 (1937); McNamara v. Powell, 256 App. Div. 554, 11 N.Y.S. (2d) 491, modifying 168 Misc. 806, 7 N.Y.S. (2d) 141, reargument denied 12 N.Y.S. (2d) 773 (1939).

<sup>2</sup>Simmons v. California Institute of Technology, 188 P. (2d) 1.



Getting the most for the money in

# TEXTILE BUYING

L. A. BRADLEY

University Laundry Service  
University of Iowa

IN ORDER TO KNOW WHAT IS OR IS not a good buy in linens, it is necessary to know what they are made of and how they are made. To this end, textile standards have been set up that may be used as a guide in linen purchases. To assist the linen buyer, many manufacturers list the specifications of the linens they have to offer. This usually makes the selection a simple task. On the other hand, when specifications are not known, the buyer should ask.

Price alone should never be the determining factor, although the lowest priced article may prove the best buy. By paying a few cents more per article, it is sometimes possible to get linens that will outwear cheaper linens several times over. If the buyer knows the specifications of the linens under consideration and compares them with one another, it will be possible for him to get the most value for his money, and, when all factors are known and considered, genuine bargains may be revealed.

The following standards for textiles have come from many sources. Some are based on practical experience; others may be those set by government agencies, and some are minimum standards established by the American Institute of Laundering.

## SHEETS AND PILLOW CASES

Sheets and pillow cases probably constitute the larger part of college dormitory linens. They get the most use and laundering and if anything is wrong with either the linens or the laundering process it will show up in them. In order to enable the buyer to determine the best value, minimum specifications for three grades of standard muslin sheets, as well as three grades of percale sheets, are as follows:

Adapted from the American Hotel Association's "Hotel Textile Guide" by L. A. Bradley.

## MUSLIN SHEETS

	Grade A	Grade B	Grade C
Thread count, yarns per in.			
Warp.....	74	68	56
Filling.....	66	60	56
Weight, ounces per sq. yd.			
Minimum.....	4.6	4.2	3.9
Breaking strength lbs., min.			
Warp.....	70	60	50
Filling.....	70	50	45
Sizing, maximum percentage.....	2.0%	4.8%	4.8%

## PERCALE SHEETS

	Grade A	Grade B	Grade C
Type of yarns.....	combed	combed or carded	combed or carded
Thread count, yarns per in.			
Warp.....	104	94	84
Filling.....	98	84	80
Weight, ounces per sq. yd.			
Maximum.....	4.0	4.0	4.0
Minimum.....	3.6	3.7	3.8
Breaking strength lbs., min.			
Warp.....	60	60	50
Filling.....	60	60	50
Sizing, maximum percentage.....	1%	1%	1%

Colleges or universities that have their laundry done by a commercial laundry at a pound rate may find the use of percale sheets more economical than that of the heavier muslin sheets. For example, in considering two sheets (81 by 108 inches)—one a percale at \$4.50 with a weight of 3.8 ounces per square yard and the other a muslin at \$2.50 with a weight of 4.8 ounces per square yard, and the laundering cost at 5 cents per pound—at the end of 100 washes, you would have washed 152 pounds of the percale sheet at a laundering cost of \$7.60. At the end of 100 washes for the muslin sheet, you would have washed 202 pounds at a laundering cost of \$10.10. Therefore, there would have been a saving in laundry charges of \$2.50 by using the percale sheet and, as it cost \$2 more originally than the muslin sheet, you would have had a net gain of 50 cents at the end of 100 washes.

One thing of great importance, however, is that if the laundry process is not under control, the higher cost of percale sheets may well result in higher linen replacement cost. Percale sheets should not be considered unless the buyer is reasonably certain they will last long enough to get a reasonable return on the investment.

The specifications for pillow cases should be identical with those given in the tables for sheets.

## BATH AND TERRY TOWELS

Bath towels are one of the few linens made specifically for presenting as large a surface as possible for the absorption of moisture. To do this, terry towels are constructed with two warps: the ground warp that carries the load, and the pile warp that is beaten into loops to make a larger surface available for absorbing moisture. The filling yarns assist the ground warp to act as a carrier for the pile.

Bath towel design and construction have advanced from a purely functional piece of linen to combine color and design. However, the plain terry weave is more or less standard in institutions. Obviously, size should be considered along with other factors when comparing quotations. Weight, while a factor, should not be final as, oftentimes, a lighter towel may outlast a heavier one. The following specifications are suggested as minimums:

## THREAD COUNT

Warp	Fill
Pile inc.	
84	42 lbs.

## BREAKING STRENGTH

Warp	Fill
45	45 lbs.

To show that price should not be the governing factor when considering bath towels or other textiles, the following experience should illustrate



the necessity for weighing all factors when selecting towels:

Cost per Dozen	Wt.	Warp Strength	Filling Strength
Towel 1 \$6.10	6 oz.	31 lbs.	24 lbs.
Towel 2 \$7.20	8 oz.	43 lbs.	36 lbs.
Towel 3 \$7.65	9 oz.	57 lbs.	57 lbs.

On a price basis, towel No. 1 is the cheapest and, if billed by weight, will be the most economical in laundry charges. The balance of strength is poor and the filling is weak, and there is not much potential life in it, as a piece of linen begins to give way when it has reached the 20 pound breaking stage.

Towel No. 2 is a better buy, although costing \$1.10 a dozen more than towel No. 1. It has greater strength with a much longer life expectancy. Towel No. 3, however, is head and shoulders above the others. It is in perfect balance and has an original breaking strength that will stand up for long periods of use in the average college or university. Yet it costs only 45 cents a dozen more than towel No. 2 and \$1.55 per dozen more than towel No. 1. Considering processing costs and life expectancy, towel No. 3 will outlast towel No. 1 by at least five times, and towel No. 2 by two or three times.

In summary, bath towels should be purchased with the following rules:

They should be well made of soft spun yarns so they will absorb moisture readily, but yarns spun too loosely may mean shorter life. They should have sufficient pile to absorb moisture. Pile loops should be securely held. All colored areas or solid colors should be fast. There should be no unequal shrinkage of design, borders or monograms. Selvages should be true selvages so they will not fray after a few washings.

Minimum breaking strengths are important and should be 45 pounds for warp and 45 pounds for filling. If there is any unbalance, it should favor the warp as a bath towel gets its greatest strain warpwise, *i.e.* the sawing motion across the back. Two-ply yarns are better than single yarns.

Bath towels should be washed before testing. A new towel may lose as much as 10 per cent of its strength after one laundering.

#### HAND AND FACE TOWELS

Linen hand and face towels are well worth using if the breaking strengths of the warp and filling are in reasonable balance. Experience indicates that

70 pounds for the warp and 70 pounds for the filling are ideal for long life with linen toweling. The reason for this is that if the linen yarns do lose a higher ratio of tensile strength with laundering, the original high strength will assure long life.

Cotton warp and linen filling towels will give excellent service if allowances are made in original strength for washing characteristics of the two fibers. Out-of-balance strength, in favor of the linen filling, will be advantageous and suggested minimum breaking strength for cotton warp linen filling towels is 50 pounds for



the cotton warp and 65 pounds for the linen filling. Both warp and filling should be in reasonable balance after a period of use and laundering.

While they may not always have the absorbent qualities of linen, plain cotton towels should give good service. Suggested minimum breaking strengths for the warp and filling are 50 pounds.

Generally, the same set of specifications outlined for hand and face towels will apply to glass and kitchen towels. A coarser weave usually will be found in this type of toweling in order to get maximum absorbency. Unless the yarns are strong, these towels will not last long.

#### WOOL AND PART-WOOL BLANKETS

Since the widespread adoption of commercial standards for blankets by manufacturers, purchasing has become relatively simple, insofar as fiber content is concerned. Generally, these standards governing wool labeling and content are as follows:

Any blanket containing less than 5 per cent wool must not be labeled wool in any form. Blankets labeled with the word "wool" and containing between 5 per cent and 25 per cent wool shall be labeled "part-wool, not less than 5 per cent." Blankets with 98 per cent or more wool shall be labeled "all-wool." These percentages refer to the wool in the entire blanket and not in the filling alone.

The knowledge that you are buying an all-wool blanket will be of little value if the blanket does not have the tensile strength necessary to withstand use and laundering.

Realizing the need for minimum specifications, the following minimum standards have been set up for 100 per cent wool blankets:

#### THREAD COUNT

Warp	Fill	Weight
34 per inch	34 per inch	13 oz. per sq. yd.

#### BREAKING STRENGTH

Warp	Fill
40	30 lbs.

Since the widespread adoption of commercial standards by manufacturers, purchasing has become relatively simple insofar as fiber content is concerned. Generally, the standards governing wool labeling are as follows:

The label must show the percentages of new wool, reused wool and reprocessed wool. If part-wool, the percentage of other fiber must be given if more than 5 per cent. The total percentage of all fibers other than wool as well as the percentage of total weight of any sizing or adulterating matter must be shown.

One thing to bear in mind with part-wool blankets is that the smaller the percentage of wool in the blanket, the quicker the wool will disappear, eventually leaving just the cotton yarns. This is also a good reason not to use bleach on blankets with any wool content, since the bleach will dissolve the wool, leaving the cotton. Blankets, wool or part-wool, should never be tumbled.

Experience has shown that a balanced strength between warp and filling is desirable. Cotton blankets should have the identical specifications as wool or part-wool, *i.e.* 40 pounds' warp and 30 pounds' filling.

Blanket bindings should be well made and colorfast.

#### TABLE LINENS

The first consideration in buying linen tablecloths, tray cloths, and napkins is to make sure they are firmly woven with long staple fibers of adequate strength. This is important when one realizes that linen does not have the same resistance to laundering as does cotton.

Damask weave, usually in the form of flowers, leaves, monograms or names, is made by "floating" yarns running in one direction over four or more yarns in the other direction. For

example, in a four-thread float, the float goes under one thread then over four threads and so on until the design is complete. Generally, fabrics with designs that exceed seven floats will not work too well over a long period of time, unless the yarns are strong, well twisted and compactly woven. It is an easy matter for a "fork doodler" to snag several yarns in a long float and break them or so weaken them that they will give way either in laundering or in use.

Experience indicates that original strength for warp and filling should be at least 90 pounds. Heavily sized linens will depreciate considerably after one washing because of the liberation of the yarns from the sizing that has more or less glued them together. The removal of the sizing will also remove much of the original luster; therefore it is sound practice to compare linens before and after washings.

The same specifications governing linen damask weave should be followed when purchasing cotton table linens. The breaking strengths may be 60 pounds for the warp and 60 pounds for the filling. Cotton table linen should be carefully chosen with simple designs because of the shorter staple cotton fiber.

For example, if the yarns in a linen tablecloth are made of 2 inch fibers and the yarns of a cotton cloth are made of 1 inch fibers, it is obvious that there will be twice as many fiber ends per inch to rub off and wear. As the fibers rub off and wear, the yarns become thinner and thinner until they give way. The amount of sizing present also is a factor, and cotton table linens should be compared before and after washing.

When purchasing solid or colored design table linens, it is important to make certain that they are dyed or screen printed with fast colors. They may become so stained that they must be washed in a high temperature formula with bleach. Since the selection of proper dyes is a highly technical problem, the purchaser should have a clear understanding with the supplier

as to the colorfastness of colored linens and their ability to withstand both high temperature and bleach.

#### UNIFORMS

When purchasing uniforms, the design will have considerable bearing on the laundering cost. One case in which a buyer was offered a bargain in uniforms brought out the fact that it would take twice as long to process the bargain uniform in the laundry as it did a higher priced one and that the savings with the bargain uniform would be offset in one week by the extra costs.

Colors should be carefully considered as dark solid shades will pick up lint quickly and be rather unsightly after a few trips to the laundry.

Generally, minimum specifications for uniforms are:

They should have at least 35 pounds' breaking strength for the warp and filling.

Seam strength should be at least 80 per cent of the yarns perpendicular to the seam.

They should be sanforized and shrinkage should not be greater than 2 per cent.

Buttons or zippers should be launderable and should not fuse at a temperature of 338° F. They should work satisfactorily after several test washings and ironing.

All colors or trim should be fast to washing at elevated temperature and bleach and should not bleed or mark adjacent areas.

#### BEDSPREADS

Chenille and candlewick spreads are very popular and, if well made, should give satisfactory service. One of the commoner complaints is the linting problem. This can usually be held to a minimum if the spreads are washed in a very short formula to reduce rubbing and friction. One manufacturer suggests that the washer be loaded to only half its rated capacity, using one or two suds with synthetic soap and two or three rinses, similar to a wool washing formula, and that the spreads

be dried in a tumbler and not finished on a flatwork ironer.

Breaking strengths should be a minimum of 35 pounds for the warp and filling, and the tufts should not yield easily when pulled with the fingers.

Woven spreads, while they may not present the same difficulties as do chenille or tufted spreads, also should be carefully examined. With a damask type of weave, the design should be tightly woven; otherwise, slippage will result. Long floats snag easily, and yarns may be distorted or pulled out. This, too, will happen with rayon spreads because of the smooth fibers.

#### CURTAINS AND DRAPERIES

Curtains, made of scores of fabrics, designs and constructions, are generally purchased more for beauty than for utility. A few simple rules should serve as a guide in buying them:

1. Printed curtains, paint or lacquer designs and tints should be fast to washing.

2. Minimum breaking strengths for warp and filling should be 10 pounds.

3. All-cotton, all-rayon or all-silk are better than mixtures of these fibers.

4. When buying dotted or chenille curtains, make sure that the dots or tufts are securely woven into the body of the curtain and cannot be pulled out easily with the fingers.

5. Shrinkage should not exceed 2 per cent, and the curtains should be restored to original length with ordinary stretching.

The same rules may be applied to draperies, with the exception of tensile strength, which should be a minimum of 35 pounds' warp and filling. The weave should be carefully examined and the yarns securely held. Mixed fibers may give difficulty because of varying characteristics of the different fibers.

Glazed fabrics should have a permanent finish that is not removed by washing. They should be sanforized or limited in shrinkage.

(The second and concluding installment will appear in the September issue.)

---

## Insurance Problems

... In the September issue an interpretation and summary of the recent College and University Business survey of college insurance will be published. The results of the study should be helpful to college administrators in future planning of their institutional insurance programs.

---



# INVENTORY CONTROL FOR A SNACK BAR

**RUBEN J. DUMLER**

Business Manager, St. John's College  
Winfield, Kan.

AMONG OTHER THINGS, THE BUSINESS manager at St. John's College is directly responsible for the operation and management of the snack bar in the student union. The snack bar is open at special periods during the day and evening, and this makes it impossible for the business manager to be around much of the time. The volume of business is fairly small, ranging from \$12,000 to \$15,000 for the nine-month school term, so it is impractical to employ a full-time manager.

The only alternative is to have the snack bar operated by students. In addition to the student manager, we have seven students employed at present, each working an hour a day. These students are carefully screened before they are employed. The student manager must have worked in the snack bar at least a year and must be a college sophomore—St. John's is a junior college.

The student manager is in complete charge. He does all the buying and assigns the working time for student employes. In addition, he takes inventory of all the merchandise in stock every evening and turns in a report with the cash. This gives the student not only a place to earn money but extremely valuable experience in merchandising and management. Students like this kind of work, and there is always a long list of applicants. It is considered a high honor to be selected manager.

Student management and operation have worked out well. We have been fortunate in getting reliable student managers and employes, and with our inventory control system, we have nearly perfect control of the business from the college office.

An exact copy of a report turned in by the student manager for Feb. 9, 1949, is illustrated. All merchandise is purchased at wholesale prices on credit from local merchants. For example, under the column "On Hand" is listed the inventory of the previous day. Under "Bought" is listed all the merchandise purchased during the day, which is supported by a signed charge ticket. The totals of the first two columns are added together, which is the amount of merchandise the manager

has to account for. From this total he subtracts the ending inventory, and the result is the quantity sold. The quantity is then multiplied by the retail price; the answer is the money received.

Take item 6 for an example. At the beginning of the day there were 72 five-cent ice cream cones on hand; 48 more were purchased during the day, which makes a total of 120. At the end of the day there were 54 cones left, which means that 66 were sold at 5 cents each, or \$3.30.

The coffee is sold in paper cups. In order to account for the amount sold, the cups are "inventoried."

After this report comes into the office, the money is checked by the business manager, and the report is rechecked and recorded in a columnar journal by a student who has completed at least one year of college accounting. (The business manager also teaches accounting.) This gives the student valuable experience in accounting, plus financial remuneration.

The profits at the end of the year are used for (1) replacement of equipment in the snack bar; (2) the student activity fund, and (3) improvement of the college union. The profit ranges from 8 to 10 per cent of sales.

## DAILY REPORT OF ST. JOHN'S COLLEGE SNACK BAR

	ON' HAND	BOUGHT	TOTAL	INV.	SALES	AMOUNT
1. Pop.....	559	576	1135	1000	135	\$6.75
2. Cigarettes.....	195	.....	195	149	46	9.20
3. Candy.....	830	.....	830	624	206	10.30
4. 1c Candy.....	450	.....	450	400	50	0.50
5. 10c Candy.....	82	.....	82	58	24	2.40
6. I. C. Cones.....	72	48	120	54	66	3.30
7. I. C. Bars.....	98	.....	98	58	40	4.00
8. I. C. Pints.....	23	.....	23	22	1	0.28
9. Milk.....	23	36	59	28	31	1.86
10. Doughnuts.....	0	192	192	0	192	6.40
11. Cookies.....	0	18	18	0	18	1.80
12. Potato Chips.....	122	108	230	187	43	4.30
13. Hot Dogs.....	0	36	36	0	36	3.60
14. Coffee.....	36	.....	36	0	36	1.80
15. 2c Candy.....	25	.....	25	21	4	0.08
16. ....	.....	.....	.....	.....	.....	.....
17. ....	.....	.....	.....	.....	.....	.....
Total Sales.....						\$56.57
Sales Tax.....						1.14
Total.....						57.71
Cash by Count.....						57.64
Register Reading.....						56.54

"Entry"

Cash.....\$57.64

Short.....—.07

Pop.....\$6.75  
Cigarettes.....9.20  
Candy.....13.28  
Dairy Products.....9.44  
Pastry.....12.50  
Sales Tax.....1.14  
Hot Dogs.....3.60  
Coffee.....1.80

Rec'd on Page 45 line 20 by Arleen Ohm  
[Signed]

HOMER HILST  
[Signed]  
Student Manager



## GROUNDWORK FOR MAINTENANCE AND MANAGEMENT

## Part II

LAST MONTH I EMPHASIZED THE values of beauty and order in the college campus and began the discussion of maintenance and operation to preserve these values. In this second and concluding article I shall continue the latter discussion with primary emphasis on the University of Illinois campus at Urbana-Champaign.

## LAWNS AND PLANTINGS

1. *Trees.* The founders of the Illinois campus developed a fixation to transform the barren prairie into a shady tree-studded campus. I suspect the corn belt heat must have been particularly oppressive as the project assumed the proportions of reforestation! Although we have many magnificent trees, it is also true that we have too many and too little variety. As a result, the shade and vigorous root action of the elms have made it virtually impossible to attain a satisfactory turf in many important locations.

This is unfortunate because a clean, healthy stand of lawn is one of the most satisfying elements in the setting of campus buildings. The situation is particularly frustrating as the sentimental attachment for any live tree, no matter how misshapen, makes it almost a sacrilege to remove one. Nevertheless, the wisdom required in knowing when to remove a tree is fully as important as knowing when to plant one.

Fewer trees of good specimen quality are much to be preferred to a quantity of misshapen trees, struggling in competition for existence, with the lawn always the first to succumb. Obviously, tree maintenance would be more economical and more satisfying if efforts were concentrated on preserving good specimen trees in areas in which they are really needed, rather than on dispersing tree maintenance activities over a multitude of crowded, ugly specimens that cannot thrive despite the best of attention on the part of the grounds staff.

## ROBERT S. CHAMBERLIN

Superintendent of Operations  
University of Illinois

In addition to maintaining a satisfactory balance between tree population and lawn area, it is good insurance to strive for at least some variety. Except where continuity is important in the landscape design, a variety of good specimens is quite likely to be more interesting if judiciously combined. Furthermore, an epidemic disease in one species will not decimate an entire campus if there is a reasonable variety of other hardy types.

This catastrophe has befallen Ohio State and many of the Eastern colleges as a result of the Dutch elm and phloem necrosis virus diseases. The Illinois campus could easily be devastated in the same way, as about 90 per cent of the campus trees are American elms.

2. *Sbrubbery*. The irresponsible mixing of Neoclassic, Spanish Renaissance, Gen. Grant Romanesque, Victorian Gothic, and ultramodern architecture as found on many campuses is most distressing and, of course, virtually impossible to unify. Nevertheless, if these buildings are functionally related and well spaced, the landscape designer can do much to subdue the architectural inconsistencies.

### SIMPLE PLANTINGS PREFERABLE

Shrubby and foundation plantings on the university campus are largely matters of the individual taste of the designer. We feel that simple plantings of a restricted proved list of plants are preferable to a wide range of more exotic materials providing dramatic, though uncertain, effects.

The central Illinois climate is difficult and does not permit too wide a range in variety. We rely largely on combinations of flowering crab apple, hawthorn or dogwood in conjunction with the various forms of Japanese yew, dwarf deciduous shrubs, and ground cover.

In certain areas we have used mass plantings of dwarf cushion chrysanthemums and polyantha roses for seasonal effects.

As a unifying influence we have systematically partitioned the campus from the adjoining towns by hedging with Amur River privet. This plant seems perfectly adapted, shears beautifully, and provides a fairly substantial control in keeping student traffic off the lawns.

The organization necessary adequately to maintain approximately 450 acres of academic campus at Illinois has assumed the proportions of that required for a small city. In fact, this area, plus the 1500 acres of agricultural campus immediately adjacent, presents nearly all the problems assumed by a municipality, plus a number that are peculiar to the university alone.

## MAINTENANCE STANDARDS HIGH

Quite naturally, we attempt to maintain the buildings and grounds of the university at an appreciably higher standard than that attempted by most cities. This objective necessitates a sizable administrative staff, in addition to engineers, technicians and craft labor in nearly every phase of public utilities and constructive activity.

The university maintains and operates its own water supply, filtration plant, power plant, police and fire departments, machine, electric, upholstery and carpenter shops, street department and all necessary custodial services.

All of the architectural work, from building programs to working drawings and specifications, is normally prepared by a permanent corps of architects and draftsmen; however, during the present accelerated building program many of the new buildings have been designed by private architectural firms.

The grounds section of the operation and maintenance division has the combined functions of a city park and

street department. Inasmuch as this phase of campus maintenance is related most closely to landscape maintenance, it would be well to look at this particular organization in closer detail.

#### **SUPERINTENDENT RESPONSIBLE**

Responsibility for the administration of grounds maintenance and construction at Illinois, together with several other functional responsibilities, is delegated to the superintendent of operations. The broad functions assigned to this division and the classifications of personnel required are summarized below:

##### *Maintenance of Grounds and Landscape Construction*

Lawns, trees, shrubs and gardens  
Roads, walks, parking areas  
Greenhouse and nurseries  
Campus sanitation services

Staff: foreman, subforeman, 3 gardeners, 3 tree surgeons, and 15 to 30 groundsmen

##### *Maintenance and Operation of Truck and Car Fleet*

Transportation and hauling services  
Mechanized maintenance and construction equipment

Garage operation (175 vehicles)

Staff: 2 foremen, 2 subforemen, 11 drivers, 3 operating engineers, 6 mechanics, and 5 garage men

##### *University Police*

Campus security and order  
Building watch service  
Emergency services

Staff: captain, 2 lieutenants, 3 sergeants, 20 patrolmen. (2 squad cars, and 1 motorcycle—all equipped with 2 way radio from headquarters control center)

##### *Administrative and Planning*

Maintenance and construction program

Landscape design and engineering

Personnel management

Surveys, reports, budgets and correspondence

Consulting services (to other university departments)

Staff: operations engineer (administrative assistant), landscape architect/draftsman, secretarial staff

In order to carry out the detailed functions, the maintenance staff must be equipped and must be familiar with the use of many types of mechanized equipment. For example, the permanent grounds crew is trained in the operation of all types of mowing equipment from hand mowers to the high speed airport tractor type of gang

mowers capable of cutting up to 150 acres a day. Our several miles of hedges are trimmed with electric trimmers operated from portable generators. Trees are transplanted up to 12 inch caliper with a modern hydraulic tree mover.

After several years of observation of the amount of time and money devoted to the unprofitable job of autumn leaf removal, we developed and finally perfected a tractor drawn leaf sweeper. This machine, powered by a 6 cylinder gasoline engine, sucks the leaves off the ground by vacuum in combination with a revolving brush, pulverizes them in a self-contained hammer mill, and drops them back on the lawn as a beneficial mulch. We estimate this equipment has reduced leaf removal costs by approximately 75 per cent.

#### **EQUIPMENT CONVERTIBLE**

The grounds section also is equipped with tractors, appliances and rotary tillers of sizes adaptable to any lawn operation. Lawn reconstruction averages about 10 acres a year. In the winter the same tractors and power mowers are converted into snow clearing equipment for the rapid cleaning of approximately 15 miles of sidewalk. Trucks equipped with highway type of plows are mobilized for clearing about 20 miles of roads, drives and parking areas.

All types of street repairs and minor construction are taken care of by the grounds section. Mechanized equipment is used for all operations from street line marking to the repenetration of tar stabilized road surfaces.

#### **OPERATE OWN NURSERY**

Several years ago we decided to experiment on the practicability of operating our own nursery as a convenient supply for materials used in abundance on the campus. The idea has proved quite satisfactory and the nursery program is now well established as an additional grounds function. We do not attempt to grow a wide variety of material, but we have succeeded in developing some fine, heavy specimen flowering crab apples, hawthorns and evergreens, plus several miles of hedge and ground cover materials, now well established on the campus. We also have a satisfactory 3 acre planting of about 400 assorted sapling trees as replacements for elms that are now threatened with a malignant virus disease in this area. Prac-

tically all material in the nurseries is propagated from cuttings in our greenhouse.

The advantages of the maintenance nursery are many, in both convenience and economy. The initial costs for the materials involved are negligible, and the maintenance has not proved to be a burden because of the mechanical cultivating equipment at our disposal. Specimen plants are balled and burlapped in approved nursery technic and are moved into position as the work program permits. By this method we realize a substantial saving in freight charges, plus the insurance of knowing exactly the quality of stock we are getting.

Our lawn maintenance program extending over approximately 450 acres is somewhat comparable to that of a fair sized park. The problem is somewhat more complicated, however, owing to wide variations in size of individual areas, necessitating several kinds and sizes of power equipment in mowing operations. This work is performed by a separate crew, however, with areas delegated to individual permanent assignments. By close integration of the various power, tractor and hand mower operations we manage to cut all lawns once a week during the growing season.

#### **WEED TREATMENT**

The entire campus lawn area is fed every fall with a liberal application of organic fertilizer. This treatment, coupled with a minimum cutting height of 2 inches, has resulted in a fairly satisfying turf. Periodic maintenance also includes blanket application of 2-4 D by pressure distributor whenever weeds show any tendency to become prevalent.

In this connection we feel it highly important to time the 2-4 D application as precisely as possible. It is true that this chemical will provide a very satisfactory kill at any time during the growing season; nevertheless, if it is applied too early in the season the weed thus removed will be replaced with crab grass. If it is applied too late the same trouble will ensue the following spring unless the area is reseeded early. Since crab grass is practically impossible to remove, we feel that timing and reseeding are most important.

From the foregoing it is apparent that the maintenance and management of large institutional grounds is a widely diverse but interesting occupa-



tion. Apart from professional training in the theoretical aspects of design as previously discussed, grounds and related maintenance management, as a profession, requires a working knowledge of several technical subjects. Although the individual choosing such a profession must have a thorough education in landscape architecture, it is almost equally essential that he be reasonably conversant in certain phases of engineering, horticulture, agronomy, architecture and city planning.

The maintenance superintendent must have at least an elementary knowledge of sanitation and underground utility problems and be able to accept damage to his campus necessitated by repairs to such services. He must demonstrate judgment and ability successfully to manage and disburse sizable funds within the limits of the budget entrusted to him. He must be capable of tact, finesse and a high degree of good judgment in the management of labor and in his dealings with the academic staff.

If he is easily approachable and friendly but, nevertheless, firm, the maintenance head has some of the most valuable qualities attainable in the administration of this or any other profession. Conversely, if he is lacking in these qualities, he is definitely in the wrong business. No amount of technical skill can make up for this sort of deficiency.

Last, but definitely not least, the successful university maintenance superintendent must be possessed of a fundamental good humor and an unbelievable tolerance for the idiosyncracies of traditionally irresponsible college students. The individual who can maintain an attitude of tolerance in the face of the adversities occasionally dreamed up by playful collegians has a rare attribute indeed! But this is one of the unique characteristics that one must be born with; such a feeling can rarely be acquired. It should be understood, however, as a requisite of the job that no amount of rationalizing can modify.

From the several hundred educational institutions in America today will come hundreds of thousands of graduates tomorrow — indoctrinated, we hope, with the ideals and traditions for which these fine institutions stand. The beauty, order and dignity of the college campus may, in a subtle way, be a strong catalytic force in refining the student into an alumnus of whom the university can well be proud.



## TRAINING CUSTODIANS

**BRUCE W. MERWIN**

Professor of Education  
Southern Illinois University

TRAINING COLLEGE CUSTODIANS is not an easy task, but one that is complicated by a number of factors. The makeup of the group is changing constantly: those already employed vary widely in their abilities, others with a wide variety of experience are being added at irregular intervals, housekeeping standards in each institution differ, buildings vary greatly in the amount of cleaning necessary, budget restrictions may be a limiting factor, and student help provides an additional problem. These and many other variables make it difficult to set up a standard course for the training of custodians.

The improvement of the present staff offers many problems also, since some of the members employ outmoded methods and materials and are

satisfied to stay in a rut. On the other hand, some alert ones keep abreast of the times and are desirous of changing to more effective methods and materials. For the first group, some vigorous means for improvement must be employed; for the latter group, skilled leadership and opportunity are all that is required.

The budget presents a limiting factor further involving custodian training. Available money may make it necessary to employ inefficient men with inadequate equipment and supplies. On the other hand, it may be possible to hire efficient men and to provide them with the most modern equipment and adequate supplies.

Employment of students as helpers presents another problem, but not as



complicated a one as some of the others, since students usually start work in the fall without previous training but with a willingness to learn. The fact that this is a regularly recurring problem makes it possible to set up a distinct student training program. In fact, current reports as to the extent of student employment indicate the desirability of a program primarily for such help.

The student program seems to divide itself into two major divisions. The first of these is general in its nature and well may be given to every student employee regardless of where he is to work. The second is more specific and is intended only for those who are to help in the housekeeping activities. As student employees should be paid for the time spent in these sessions, the instructor must be specific and direct and must take a minimum amount of their time.

#### PURPOSE OF SCHOOL

The general session should be devoted to an explanation of the purpose of the school and the attitude toward student labor. It should include such things as (1) how to apply for work, to whom, and the forms used; (2) how to use the forms and get the signatures necessary; (3) how to file time claims; (4) how to claim tax exemptions; (5) how and when payments will be made; (6) rate of pay and chances for increase; (7) amount of time they may be employed, and (8) their rights, privileges and general relations.

It is essential to build up the morale of student helpers, as well as that of the regular custodian staff. This should be done by building up the status of the job. By having the educational values of the work pointed out as preparation for an administrative position in later life, the student is more likely to think of his job as something that contributes to the welfare and standing of his college and will take pride in doing it well.

This general session should provide information regarding the work, but, more important, it should result in a higher appreciation of the job and its possibilities, consequently raising the morale of student employees.

For the specific training of student custodians, at least six sessions of one hour each are desirable. Instructions should be carefully planned and presented in a simple and clear manner. Suggested topics are sweeping, dust-

ing, scrubbing, window washing, care of toilets, and standards of work, especially time allotment and acceptable cleanliness.

As an example, the following outline dealing with sweeping is presented.

#### *Sweeping*

##### Equipment and supplies

- Floor brush
- Oiled dust mop
- Damp mop
- Vacuum cleaner
- Counter brush
- Dust pan
- Sweeping compound
- Oil

##### Technics

##### As affected by floor materials

- Concrete or terrazzo
- Wood, sealed
- Wood, unsealed but smooth
- Wood, unsealed and rough
- Asphalt tile

##### As affected by tools used

- As affected by usage of space
- Classroom with fixed seats
- Classroom with movable seats
- Corridors

##### Steps

- Miscellaneous toilets and offices

The instructions provided for student helpers may well serve as basic training for the regular full-time custodians. They, in turn, will need at least one general session and a number of periods devoted to more specialized activities.

#### CUSTODIANS, NOT JANITORS

At the first session the men should be told that they are employed as custodians rather than as janitors. The latter term has a certain amount of social stigma attached to it. The attitude has been that janitorial work requires no technical skill and little intelligence, and in a few institutions this idea still prevails. However, in most systems it is recognized that a high type of individual is essential. Untrained janitors cost the school far more than the amount paid them.

The custodian must act as a professional in order to be recognized as one. He should be trained for his job, be informed on every phase of building operation and maintenance, and he should know and employ the latest and most efficient methods. He should be inspired with the ideal of service and not be satisfied to get by with as little effort as possible. He should be advised that the college is established

and supported for the benefit of the students rather than for the support of the faculty and custodians.

The custodian must be brought to realize the wide ramifications of the effect of his work. Insanitary conditions, incorrect temperature, and poor ventilation are hazards to health, and the custodian should be made to realize these are his responsibilities.

First impressions are important, and the new custodian must realize that his work is where it can be seen and judged. Not only the students, faculty and administrators observe it, but salesmen and casual visitors notice the conditions of the buildings. Their opinion of the work done by the entire institution is highly affected by the housekeeping shown and takes a tangible form in the degree and type of support received from the community.

Trainees should be shown that they are members of a team striving to make education possible, and they should learn that their superiors are criticized if the work is unsatisfactory. They must learn to get along with the faculty, the student body, and their fellow employees. Insistence on sweeping when someone is still in the room does not promote harmony. A courteous request for permission will usually prevent any hard feelings that might otherwise develop.

Student helpers must be regarded as such. They should be given definite instructions and shown how to work, then watched to see that they are doing the work according to instructions. They should be impressed with the idea that they owe it to the institution to see that there are no property losses that can be prevented, such as losses resulting from theft, fire, freezing or simply from carelessness.

In later periods of instruction dealing with specific matters, the topics presented to student helpers may be elaborated upon from a more advanced standpoint. Additional topics on housekeeping, such as wall dusting and washing, floor care and treatment, blackboard care and refinishing, and heating and ventilating, should be discussed.

It has been the purpose of this article to present briefly one method of bringing about better care of college buildings by training those who have the work to perform. In many places the results of such a program will be seen in the well cared for buildings and high morale of the custodians.

## ARTHUR S. BUTTERWORTH

Sanitation Specialist  
Platteville, Wis.

SANITATION MAY BE DEFINED AS THE science of bringing about and maintaining a healthful physical environment in which to live. Obviously food sanitation, while but a part of this field, is of tremendous importance among intelligent people, especially those interested in group feeding.

Food sanitation includes the study of (1) food poisoning, (2) insect and rodent control, and (3) control of bacteria, both air borne and contact.

### FOOD POISONING

Food poisoning may result from eating a toadstool instead of a mushroom or from eating a poison such as sodium fluoride (roach powder) by mistake. Such errors are inexcusable. One should know his mushrooms. Poisons should be colored, conspicuously labeled, and should be isolated from the general storeroom. Furthermore, they should be kept under lock and key.

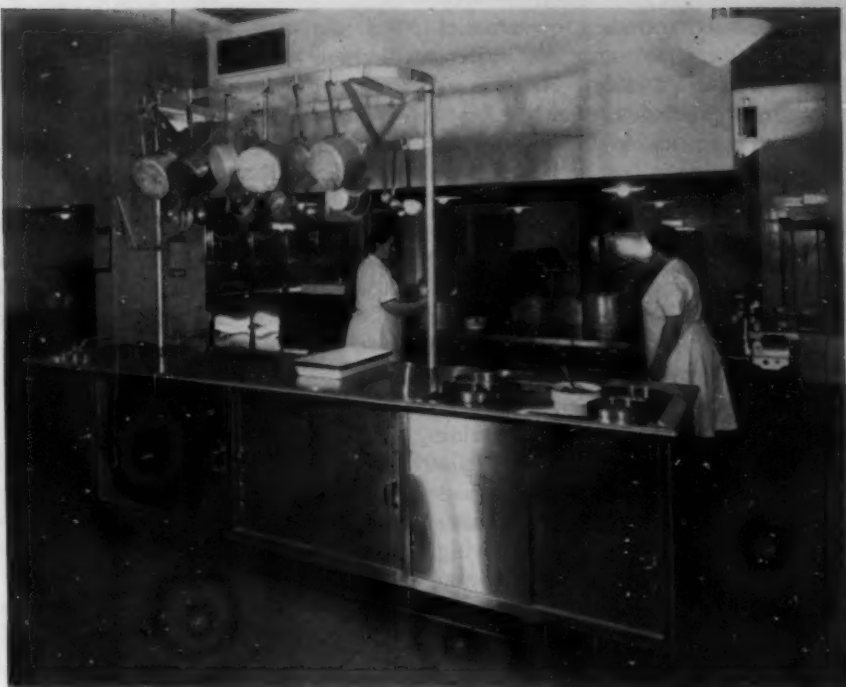
The other type of food poisoning is the result of bacterial action on food. Pastries, such as pies and cakes with cream fillings and custards, and bulk salads provide a happy home for *Salmonella* and *Staphylococci*. Their next best choice of residence is chopped meat.

Everyone is familiar with the problem of raw or undercooked pork and the resulting danger of trichinosis and with the recent problems resulting from the cooking of frozen poultry, fish, meat and vegetables which have been permitted to stand around after being defrosted.

### INSECT AND RODENT CONTROL

You *can* get rid of flies. You *can* get rid of roaches, and you *can* get rid of rats and mice. Until you accomplish these riddances you cannot go far in the field of food sanitation.

Probably the most effective and economical procedure is for the food



## KEEP IT CLEAN!

### *Sanitation in the food service department*

### *begins and ends with good housekeeping*

service director to turn over the problem to professional exterminators while she devotes her time to the kind of housekeeping that discourages these unwanted boarders.

### CONTROL OF BACTERIA

It is common knowledge that if we were suddenly to kill all the bacteria in the world we should probably lie among the ruins ourselves. Bacteria are necessary to carry on life itself. It so happens, however, that among the race of bacteria there are a few no-good citizens just as there are among the human race. As long as this minority is controlled, no great harm is done.

The human body is an effective and efficient germicidal machine. Unless we give it too big a job to handle, it can cope with the ordinary situation. All human beings do not have the same ability to handle contamination, so certain standards are established, which if maintained will ensure that

a food operation is not endangering the health of its customers.

Bacteria don't get around much; in fact, only a few have the power of motion and then only in liquids. Bacteria cannot rise from a moist surface. They are carried passively from where they were to where they are. Probably the most exciting event in their lifetime is to shoot off into space when you or I sneeze—then they travel about 10 feet. When we talk, we spray bacteria about  $3\frac{1}{2}$  feet.

Another form of travel enjoyed by more venturesome bacteria is to become affixed to a dust particle; on such a public carrier they can cover a considerable area. These are the air borne divisions.

Nothing in this sedentary existence interrupts the appalling birth rate of bacteria. Most of them are harmless, but *all* are not harmless.

Weapons employed in the control of bacteria may be classified as those of (1) thermal mortality, (2) chem-



ical mortality, including quaternaries, and (3) the lethal ultraviolet ray.

1. *Thermal Mortality.* Bacteria are more easily killed if they are in a hydrated condition. In dehydrated form an oven temperature of 350° F. is required for at least two hours; boiling water will kill them in 30 seconds.

There is a common belief that sculleryware can be washed carelessly because it is exposed to high temperatures in use. A goodly percentage of sculleryware never sees the oven and definitely needs care in washing.

Many people believe that cooking will kill germs in food. To a certain extent this is true, but most roasts attain a maximum inside temperature of 185° F. or under. Certainly frying a chicken that may have stood too long at room temperature after defrosting is not sterilizing it by cooking. If I had a doubtful fryer, I should pressure cook it rather than fry it. An institutional pressure cooker is to all effect an autoclave and is an excellent sterilizer. It is difficult to sterilize food by cooking when the quantity is large because of the slow rate of heat penetration.

Hot water is not only the most effective of germicides but also the most convenient to use and the cheapest. There's no need to worry about the strength of the solution or the toxicity of the chemical. Since hot water is required in all dishwashing operations, with just a little added attention sterilization can easily be accomplished at this point.

Simple as hot water sterilization is, I find it the least understood of all germicides. The only similarity between water at 135° and water at 185° is that both are wet.

Research has clearly established the fact that water at 185° F. (175° F. on the dish) will kill bacteria effectively. As this fact has become known, many startling adaptations of the idea have been invoked. One of the commonest of these is to build a fire under the wash water or to turn steam into the tank until the water fairly boils. The dishes are washed in this boiling garbage and then rinsed in ordinary hot water of about 135°. All the procedure accomplishes is to "cook on" certain types of food and, unless they are scraped off with a dish towel, the roughness stays there, forming an ideal shelter for bacteria.

Another compromise is to raise all the building's hot water supply to the highest practical temperature. This

generally runs from 150° to 160°. Nothing is accomplished except to create a potential accident hazard whenever hot water is used for purposes other than dishwashing. Water at 135° will not scald flesh; water at 160° will.

I have seen many installations in which provision has been made to superheat water to 185°. The institution then not only rinses with this water but also washes at that tem-

### CARRY GLASSES ON A TRAY-



### NOT WITH YOUR FINGERS!

perature. Again, this will "cook on" food. Dishes should be washed in water ranging from 130° to 140° and rinsed at about 175°.

It is hard to convince intelligent people that when they desire to superheat water to 185° they must first soften it if they are interested in economy. If money is no object, go ahead and superheat hard water, but it is a costly operation for the following reasons:

1. Hard water practically doubles soap consumption.
2. Hard water greatly shortens the useful life of costly dishwashing machines.
3. Hard water requires many extra man-hours of maintenance on mechanical parts exposed to such water, such as rinse valves, rinse sprays, circulating sprays, and door chains.
4. Hard water requires more man-hours of labor for actual dishwashing if the machinery is maintained at a high appearance level.

Certain things can be done with a compound, but none will stop lime deposition caused by rinse water because no compound comes in contact with the rinse water.

The scientific reason why 135° water may be hard but 185° water must be soft is that water at 135° has all of its lime in permanent suspension. However, as this water is heated and passes 150°, the contained calcium and magnesium start to free themselves, and this action accelerates as the temperature increases. At 185° practi-

cally all lime is free and ready to deposit at the first opportunity. This it does on the tableware, in the dish machine, and on the moving parts of the machine—particularly on the rinse mechanism.

When water is softened, bear in mind that there is no material advantage in kitchen or building supply water being over 135°; it is only superheated water that must be soft. Frankly, softened water should not be used for cooking because of the fact that the act of softening has merely converted insoluble calcium carbonate into soluble sodium carbonate in soft water. Sodium carbonate is sal soda, and if the water is very hard it will actually make coffee bitter.

In several installations with which I am familiar the water is softened only to the rinse line, and only that water is superheated. The demand for the average dish machine rinse is 4 gallons per minute.

The rinse should be adequate in volume as well as in temperature. I have seen attempts made to rinse a rack of dishes in a large dish machine with actually only a tumblerful of water. The through type of dish machine should pass 2 quarts of water from the upper spray (and presumably the same amount from the lower spray) per rack of dishes. A convenient galvanized pan of a size that will fit on top of a dish rack and 2 inches deep will serve well to check the volume of the rinse water.

If the rinse is adequate in temperature (185°-175° at the dishes) and adequate in volume (at least 2 quarts from the top rinse per rack of dishes), there will be little to worry about in the way of dish sanitation—except what goes on after the dish leaves the machine.

2. *Chemical Mortality.* The chemical germicides which are usually helped by heat but which do not require heat to kill may be classified by their method of kill. Those that coagulate the protoplasm, as does heat, are usually salts of mercury, lead, copper and silver. Also the strong acids—hydrochloric, nitric and sulfuric—operate in like manner. While these are effective, because of their poisonous nature, none is used to any great extent around foods.

Certain chemicals react with the protoplasm and form proteinates. These are the alkalis of dishwashing compounds and the sodium and calcium hypochlorites.



Another manner of chemically controlling bacteria is through oxidation by ozone, hydrogen peroxide, or potassium permanganate.

About three years ago we began hearing of quaternary ammonium compounds and their advantages in disinfecting the various operations of food handling. The name "quaternary ammonium bases" is derived from the hypothetical ammonium hydroxide ( $\text{NH}_4\text{OH}$ ) in which the four hydrogen atoms and the hydroxyl group attached to the nitrogen are replaced by alkyl radicals.

When these compounds were introduced there was confusion as to how they worked and how they should be used. There are so many of them and there can be so many more that it is careless to generalize on the entire group. As with many innovations, one immediately hears all the good things and only eventually does one hear the bad.

Nevertheless, there certainly are many quaternaries that can be helpful in sanitation. First of all, in choosing a quaternary, one must be sure that it is nontoxic not only in the concentration recommended but also in the concentration institutional employees may decide to use. Quaternaries cannot be packaged in tin or steel because of the rapidly induced rusting of the container. Even used as directed, some quaternaries will cause rust on silverware and certain scullery items.

For a long time a great deal of worry was wasted on these cationic germicides as to whether or not they were compatible with certain soaps. Finally somebody came to the elementary conclusion that it makes no difference as they should not be used with soap anyhow. They should be used in rinse water.

Many manufacturers urge a fresh water rinse to be followed by a rinse in water treated with a quaternary. Quite a point is made of the residual killing effect of quaternaries on tableware rinsed in treated water and then air-dried. I should want to be sure that this residual killing effect would be on bacteria rather than on people.

The strength of most treated aqueous solutions can be checked either by titration or by treated test papers. Assuming a solution, when made up, does test within allowable limits, the problem is still not completely solved, for unless the rinse maintains its concentration there is little assurance that the tableware is being sanitized. Overconcentration may affect the toxicity and would not be economical as quaternaries are the most costly of disinfectants.

#### ULTRAVIOLET RAY INSTALLATIONS

Quaternaries do have a definite place in sanitizing food handling equipment; my point is that they do not constitute a panacea and that before using them they should be understood.

3. *Lethal Rays.* One effective and increasingly important type of control is through the lethal effect of the ultraviolet ray. I suggest that an installation of this valuable aid be made only with advice of an expert, for one needs considerable technical knowledge to prescribe adequate and effective sterilization.

The ultraviolet ray, being relatively new in application and fundamentally different in method of kill, is not as well known as it should be. It has been demonstrated that an intensity of 0.23 watts per square foot will kill 95 per cent of the tuberculosis bacteria in three seconds' exposure. Tubercle bacilli are very difficult to kill;

because of their capsule-like nature they are extremely resistant to both heat and chemicals. When they exist in dried sputum, they will live for a week or more and float through the air on dust particles.

The ultraviolet ray is effective against most bacteria found in well operated eating places. It seems to be particularly effective against airborne virus, which has been a serious problem.

Several specific installations are definitely important and should be considered. I should like to plan a cafeteria line wherein would be built a series of ultraviolet lamps so placed that the reflected rays would not hurt the eyes but would treat the air-borne bacteria that are kept stirred up by the constant line of traffic over the same piece of floor. I should like to see these lamps installed over the silverware supply boxes and over the water glasses where they stand on shelves before the customer. One uncontrolled sneeze and all careful glass-washing is undone.

Among the most difficult pieces of kitchen equipment to keep sanitary are the butcher block and the cook's and baker's tables. The former has the time, temperature and the raw material for ideal cultures of pathogenic bacteria which will be picked up when next the block is used. The butcher block is subjected to various cleaning treatments, but I suggest that a culture be made. My idea is to subject this block to ultraviolet rays during the night or at least part of the night, the time to be controlled automatically. Such protection could be extended to cook's and baker's tables.

If an institution is clean and a good housekeeping job is done, the problem of meeting sanitary requirements will be relatively simple.

---

### *Write for Volume Index*

If you bind your volumes of COLLEGE and UNIVERSITY BUSINESS you will want the index to Volume 6, covering issues from January through June 1949. You may obtain your free copy by writing to College and University Business at 919 North Michigan Avenue, Chicago 11, Ill.

# Questions and Answers

## Federal Tax

**Question:** Shouldn't the federal tax be exempted on admission tickets sold for activities of colleges and other nonprofit organizations?—M.R.E., Iowa.

**ANSWER:**—The federal tax on admission tickets is a "luxury" tax paid by the individuals who buy the tickets and is not levied against the individual or organization that sells them. The organization is merely required to collect the tax from its customers and turn it over to the collector of internal revenue.

An athletic contest, a college play, or other activities in the same general category are regarded as entertainment or amusement for the ticket buyers and not as an educational service purchased by them for their own cultural improvement. Therefore, the theory is that it makes no difference whether the seller of the tickets is an educational institution or a nonprofit private organization or a private proprietary amusement business. The whole transaction is primarily between the federal government and such individuals as are able to buy "luxuries" in the form of amusement tickets.

The federal government has an undoubted right to tax individual citizens directly, and it would seem to be rather difficult to sustain an argument that citizens who buy football tickets or college play tickets should not be treated in the same manner as those who buy other types of expensive amusements.

There is something to be said, however, for the exemption on tickets purchased for activities that are obviously educational rather than merely entertaining in nature, such as lecture courses, musical concerts of high quality, and debates on public issues. Exemption on such activities would actually constitute a form of federal subsidy for adult education, which naturally has a very great appeal to those of us interested in the financing of education of all types.

Such a federal subsidy for adult education would not be revolutionary

because the federal government has a long established policy of assisting educational and charitable institutions by exempting them from income taxes and by encouraging private gifts to them by exempting the gifts from the federal estate tax and from federal income taxes up to specified limits.—M. M. CHAMBERS, *American Council on Education, Washington, D.C.*

## Food Service Employees

**Question:** How can we properly supervise or train student employees in our food service departments?—F.G., S.D.

**ANSWER:** As food service directors we have a responsibility to student workers. We have no right to let them go out into the world with such bad work habits that they lose a job because of their lack of responsibility. We should have specific standards, clear directions, some sort of contract perhaps, and a student should know definitely his rate of pay and his hours of work.

For training new workers we provide mimeographed job analyses and general instructions for everyone. When possible, an older student works with a new one. Before the first meal in any residence hall, there is a compulsory meeting for new students and a dummy meal is served. Head hashers or waiters are busy the first weeks helping the new person to make good.

**If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.**

We find it difficult to have incentives for advancement. "Head hashing" is really a social promotion. A student must be a good leader and be able to see the point of view of both management and student employee, but the pay is purely nominal.

Certainly supervision and training of student employees are vital. I also think that for the good of the whole group an unsatisfactory worker cannot be retained in spite of need. Centralized hiring and records do make a student realize the necessity of making good on each job. We try very hard to keep students through each quarter. Sometimes they "fire themselves." For some 20 years, these succinct rules regarding attendance have been used:

3 lates—1 A.W.O.L.

2d A.W.O.L.—warning by director

3d A.W.O.L.—goodbye.

CHRISTINE RICKER, *director of university dining halls, Stanford University.*

## Refreezing Frozen Foods

**Question:** Can frozen foods be thawed and refrozen without harmful effects to the food?—B.P., Mass.

**ANSWER:** Many frozen food packages properly carry an important admonition against the thawing and refreezing of foods. This is particularly important because of bacterial action. A few examples will serve to illustrate this activity. Scalded frozen peas and beans may have a bacterial count below 1000 when frozen. After 24 hours at 72° (thawed) the count rises to between 24,000,000 and 40,000,000. Sweet corn will go from a bacterial count of 1500 in the frozen state to 60,000,000 in 24 hours after thawing. Oysters having a 22,000 count at zero have been known to go to 320,000,000 count at 72° F. in 24 hours. This further emphasizes that zero storage is essential and that it is highly important that there be no compromising with this temperature.—COL. PAUL P. LOGAN, *director of food and equipment research, National Restaurant Association.*



# NEWS

**Introduce Bill to Ease Campus Housing Shortage . . . 111,000 More Degrees  
Granted This Year . . . A.A.U.P. Defends Dismissed Teacher . . . New Law  
Affects Surplus Property to Colleges . . . Deny Racial Discrimination**

Washington Correspondent: BEN BRODINSKY

## **New Bill Would Aid Colleges in Housing Students and Faculties**

WASHINGTON, D.C.—A bill designed to ease the housing shortage on college campuses has been introduced in the Senate by John Sparkman (D.-Ala.).

The Senate banking and currency committee began studying the bill on July 26 in a three-day public hearing.

Labeled as "Housing Amendments of 1949," Mr. Sparkman's bill contains two major provisions for colleges and universities:

Title III would encourage establishment of housing cooperatives or other nonprofit housing groups. The federal government would aid the cooperative ownership of homes through long-term loans at 3½ per cent interest. The bill asks for a \$1,000,000,000 loan authorization, half of which would become available immediately, the other half to become available at the direction of the President. A new agency, the Cooperative Housing Administration, to be headed by a commissioner, would operate the program. Under this title, college faculties could organize cooperatives to build new homes for themselves and their families.

Title V seeks to aid educational institutions to provide housing for their students and faculties through a program of loans. These would bear interest at the rate of 2½ per cent a year to be repaid within 40 years. An appropriation of \$300,000,000 would be authorized for this purpose. The Housing and Home Finance Administration would be in charge of this program.

No loan would be made to an institution "unless the H.H.F.A. finds that the housing will be built in the most economical manner and will not be of elaborate or extravagant design

or materials." A loan to an institution may not exceed the total development cost of a building project.

Mr. Sparkman said that his new housing bill, S. 2246, takes the place of S. 712 which dealt only with housing loans for schools.

## **430,000 Degrees Granted in 1948-49**

WASHINGTON, D.C.—Degree granting institutions awarded 111,000 more degrees in 1948-49 than they did last year. New estimates by the Office of Education show a total of 430,000 undergraduate and graduate degrees were conferred by the colleges and universities reporting this information.

Institutions awarded 375,000 bachelor degrees; 50,000 master's degrees, and 5000 doctorates.

## **Between You and Me, They Hit a Bee-Hive!**

WASHINGTON, D.C.—"Nearly all" the colleges and universities that had been requested to do so have submitted lists of textbooks used in their social studies and literature courses, the House un-American activities committee reported. Only a small minority refused to comply with the committee's request.

The next action is a decision by the committee whether it is "feasible and advisable" to analyze a sampling of the textbooks for subversive ideas, or whether to drop the project. Such a decision is not likely to come until after January 1950.

Observers predict that the committee will attempt to sidestep the investigation. This view is prompted by the fact that many of the textbook lists were accompanied by sharp letters of protests from college executives, charging that federal investigations of courses of study will not be tolerated by the public.

## **Teacher-Loyalty Oaths No Guaranty Against Communism**

WASHINGTON, D.C.—Laws and directives requiring teachers to swear they are not Communists are of doubtful effectiveness, says Earl J. McGrath, commissioner of education.

In the first statement of policy from a national education official on teacher-loyalty oaths, Dr. McGrath said that such oaths do not assure schools and colleges that they are safe from inroads of Communist ideas.

"The greatest danger to the future of education is that in our efforts to avoid the spread of Communistic doctrines we may turn this nation into a police state, with many of the traits we abhor in totalitarianism," Dr. McGrath said. "Any action of the public that interferes with freedom in the classroom will tend to intimidate many teachers and destroy their effectiveness. Many good teachers would leave the profession. It will stultify education, dull the minds of students, and will make education the tool of a thought control no less vicious than that of totalitarian states."

Dr. McGrath indicated that the best defense of democracy lies in encouraging teachers to stress the ways of democracy and to contrast them with the ways of totalitarianism.

## **Catholic Colleges Gain**

NEW YORK CITY.—According to figures revealed in the 127th annual Roman Catholic Directory, enrollments in Roman Catholic colleges and universities in the United States, Alaska and Hawaii have more than doubled since the academic year 1946-47. The enrollments have risen from 102,655 students to 240,048. The directory lists a total of 228 colleges and universities for men and women under Roman Catholic sponsorship.



## President Signs Act Affecting Surplus Property to Colleges

WASHINGTON, D.C.—President Truman signed an act creating a new agency and new policy for distribution of surplus property to schools and colleges.

The new federal Property and Administrative Services Act abolishes the War Assets Administration, the Federal Works Agency, and the wartime surplus property laws under which they operated. In their place is created the General Services Agency, headed by Administrator Jess Larson, former W.A.A. head.

Of interest to educators are two sections of the new law:

Title II, section 203j, which authorizes both civilian and military agencies to donate surplus property to schools and colleges. Extension of the donations authority to civilian federal agencies is a new feature of the surplus property program for education.

Section 203k, which permits the sale of surplus property to schools and colleges under a discount system only until Dec. 31, 1949. Discounts and preferences on personal property for education are abolished.

## A.A.U.P. Defends Teacher Dismissed for Wallace Support

WASHINGTON, D.C.—The Evansville (Ind.) College administration is "clearly censurable" for firing a teacher because he supported Henry A. Wallace for president last year, the American Association of University Professors announced.

This action does not yet place Evansville College on the A.A.U.P.'s "censured administrations" list. Decision as to whether to do this will be made at the association's annual convention scheduled for March 1950 in Cleveland. To date, the A.A.U.P. has labeled seven college and university administrations as censured "to show that they are not observing principles of academic freedom and tenure."

The A.A.U.P. is displeased with Evansville College because it discharged George F. Parker, assistant professor of religion and philosophy, two days after he took part in a meeting addressed by Henry Wallace. Dr. Parker charged that his contract

for a full academic year "was summarily canceled."

The college administration replied that Dr. Parker jeopardized the school's interests in a "conservative community" by engaging in political activities on behalf of Wallace's Progressive party.

The A.A.U.P. report defending Dr. Parker was written by William D. Laprade, professor of history, Duke University. The defense was based on the principle stated by the committee on academic freedom and tenure as follows:

"A part of the freedom that we are all anxious to preserve is the right of minorities to be heard and of individuals to protest, provided it is done in an orderly manner and without violence. An essential element in a free government is this right of those who are outnumbered for the moment to seek to win adherents to their views by argument and persuasion. To dismiss a teacher for indulging in this freedom would scarcely seem to be an appropriate way to preserve it."

## Salaries of College Teachers Increasing

COLUMBIA, MO.—In a partial report on teachers placed in colleges and universities during the last nine months, the University of Missouri Teachers Placement Service announced that 30 students and former students who hold doctorate degrees have been placed in positions during that period.

Dr. L. A. Eubank, director of the service, said that 45 additional applicants, who had not received doctor's degrees, were placed in college and university positions since last October 1.

The report shows that college teachers' salaries are apparently still on the increase, and that a doctorate is worth approximately \$1330 a year more in starting salary. The 28 placed in full-time jobs will receive starting salaries ranging from \$3600 to \$9500 a year. This is an average of \$4546, or about \$250 to \$300 more than comparable placements of a year ago. Two who accepted summer appointments are receiving comparable salaries, he said.

The 45 applicants without doctor's degrees accepted positions, some of them part-time, at salaries ranging from \$1800 to \$4600 a year, Dr. Eubank reports.

## A.A.U.P. Would Not Ban Members of Communist Party

WASHINGTON, D.C.—College teachers who belong to the Communist party should not be dismissed from their jobs solely because of that fact, the American Association of University Professors declared last month.

The A.A.U.P. restated the controversial policy in a report of its academic freedom and tenure committee. Its conclusion was published "after prolonged consideration not in relation to a specific case, but as a general principle around which a case might eventuate." One of the cases that the association is still studying involves professors dismissed from the University of Washington who have been charged as Marxists.

Ralph E. Himstead, general secretary of the A.A.U.P., sums up his association's stand as follows: "The college or university teacher is a citizen and a member of a learned profession. When he speaks or writes as a citizen, he should be free from institutional censorship. But as a member of an educational institution, he has an obligation at all times to be accurate, exercise restraint, respect the opinions of others, and make every effort to indicate that he is not an educational spokesman.

"Like any other citizen, he may join any political party, including the Communist party. But if a teacher should advocate the forcible overthrow of the government or should incite others to do so; if he should use his classes as a forum for communism, or otherwise abuse his relationship with his students for that purpose; if his thinking should show more than normal bias or be so uncritical as to evidence professional unfitness, these are the charges that should be brought against him. If proved, he should be dismissed because of professional unfitness, and not because he is a Communist. So long as the Communist party in the United States is a legal political party, affiliation with that party is no reason for exclusion from the academic profession."

The A.A.U.P. position was announced a few days after the National Education Association had resolved at its Boston convention that members of the Communist party should not be permitted to teach in public schools.

## V.A. Emphasizes Need for Certificates of Eligibility

WASHINGTON, D.C. — Veterans planning to go to college in the fall under the G.I. bill should begin now to make necessary arrangements for certificates of eligibility, V.A. said recently. A veteran already in school under the G.I. bill who intends to continue his education this fall in a different school should apply as soon as possible for a supplemental certificate.

If a veteran is not presently in training, but holds an unused G.I. bill certificate of eligibility issued before Sept. 1, 1948, he should exchange it for a new type certificate if he plans to enter school this fall. If a veteran who has no certificate of any kind intends to enroll in the fall, he should apply for one at his nearest V.A. office. He will be issued the new type certificate of eligibility when he meets necessary eligibility requirements.

Veterans now in school under the G.I. bill must have supplemental certificates before they can be admitted to new schools or courses, V.A. said. Those not now in school, who hold certificates of eligibility issued before Sept. 1, 1948, may mail them to any V.A. office to exchange them for the new type certificates. V.A. emphasized that the certificates need not be exchanged in person. By exchanging his old certificate before entering training, the veteran enables V.A. to verify his entitlement for education and training well in advance of the time he enters school. In verifying entitlement, V.A. also assigns the veteran-enrollee a claim number and sets up an initial index record for him.

Verification of entitlement is necessary before V.A. may pay tuition and subsistence. New certificates are accepted by V.A. and schools without question, while old certificates are not acceptable until verified.

## Survey Reveals Growth in Adult Education

NEW YORK CITY.—A recent survey by Columbia University's Teachers College reveals a considerable growth in adult education. The survey was released by Dr. Paul L. Essert, Teachers College professor.

Dr. Essert established, on the basis of his survey of 75 cities and 34 states,

## WASHINGTON AT A GLANCE

WASHINGTON, D.C.—Congress is expected to remain in session at least until September 3, possibly September 15. . . . Patterns of income and expenditures of institutions offering nursing, medical and engineering education are being studied by Washington research groups. . . . The American Association of University Professors more than doubled its membership since 1940—growing from 15,000 to 33,500. . . . The employment outlook for engineers is discussed in an 11 page leaflet available from the U.S. Bureau of Labor Statistics, Washington. . . . Another document useful to employment counselors is "Local Job Briefs," prepared by state employment security agencies. Bulletin indexes some 3000 labor market information leaflets prepared by public employment offices in all parts of the country.

Because U.M.T. will not be enacted in the foreseeable future, air force generals suggested that the \$760,000,000 originally requested for U.M.T. be spent for six additional air groups. But President Truman insists that the money be "saved for the day when U.M.T. is enacted." . . . The *Journal of Junior Colleges* will be edited during the next three years at the University of Texas, in line

with the policy of the Association of Junior Colleges to rotate the site of editing and publication. University of Chicago was last place of publication. . . . The N.E.A. will observe its 100th birthday in 1957, and its officials are already thinking about a "centennial action program." . . . Because the chairman of the House committee on education, John Levenski (D.-Mich.), disagrees with the chairman of the subcommittee on education, Graham Barden (D.-N.C.), on whether federal funds should be used to aid nonpublic schools, all federal aid to education bills are stalled in the House. But Representative Sims (D.-S.C.) wants to pry loose the Senate-passed Thomas Bill for floor action by a discharge petition, requiring 218 representatives' signatures. . . . Proposal to provide federal aid for building and operating schools of medicine, dentistry, nursing and public health is tied up in the bitterly contested health compulsory bill; hence, will not be acted on at this session of Congress. . . . And the House ways and means committee is still sitting on the measure to extend social security to employees of educational institutions. Word from closed committee sessions is that "a bill will be reported by mid-August."

that approximately 30,000,000 persons are being reached by the many facets of adult education.

Dr. Essert was able to cite four trends he believes are contributing to the formation of the new culture pattern. They are a shift from a youthful population to an increasingly adult one, a continuing popular "demand and supply" for part-time learning, a growing realization that full training, education or information is not necessarily achieved in the first 20 years of life, and an increasing concern of public schools in guiding young adults as they assume community responsibilities.

According to the Columbia professor, he believes that "a new concept of citizenship is developing that reflects the desire of Americans to share in making the rules by which they live."

## Seeks to Increase Cooperative Courses

WASHINGTON, D.C.—More than 80 per cent of all colleges and universities offer instruction about farm cooperatives, says the American Institute of Cooperation. Despite the large number of offerings, however, only 7 per cent of undergraduate students are enrolled in such courses.

The American Institute of Cooperation seeks to increase the number of college courses about cooperatives by providing free and low-cost materials on the subject. A list of materials is available from the institute, 1302 Eighteenth St., N.W., Washington 6, D.C.

More than 5,500,000 farmers are organized in 10,000 cooperatives doing a \$7,000,000,000 business a year, the institute reports.



## Welfare Department Swallows Up U.S. Office of Education

WASHINGTON, D.C.—On June 20, President Truman sent to Congress his Reorganization Plan No. 1, creating a Department of Welfare to include social security, health and education programs now in the Federal Security Agency.

Date of message is important, since 60 full days after its transmission the department would automatically come into being unless (1) Congress adjourns before the 60 days' expiration or (2) either House specifically votes to turn down the plan. Neither of these is expected to happen before August 20, when most observers believe the department will become an actuality.

"The creation of this department will meet a long standing need of the executive branch," Mr. Truman wrote Congress, "and will recognize the importance of our social security, health and education programs."

For the most part, the reorganization proposal follows the suggestions of the Hoover Commission which studied the organization of the government. Educators, however, oppose incorporation of the Office of Education in a welfare department. They have consistently favored an independent national board of education, with a commissioner reporting directly to the President.

## College Presidents Deny Racial Discrimination

CHICAGO.—A story published in the June issue of COLLEGE AND UNIVERSITY BUSINESS reported a survey by the Connecticut Inter-Racial Commission on widespread discrimination against Negro, Jewish and Italian students seeking admission in colleges and universities. Presidents of Yale University, Trinity College, Wesleyan University, and Connecticut College for Women emphatically denied that they were practicing any racial discrimination as charged in Governor Bowles's reported comments on the report released by the commission and prepared by Dr. Henry G. Stetler, its research associate.

"Since the emphasis of the report is mainly on the different percentages of 'superior' Protestant and Jewish

students admitted, it would appear that the entire charge of discrimination is based on the fact that three more Protestants than Jews were admitted by colleges that considered more than 7000 applications during that period. This is the small molehill from which a mountain has been constructed," the four college presidents stated.

In view of the reply by the four college presidents, newspaper comments in Connecticut were most favorable to the position taken by the four institutions involved. The inconclusive nature of the evidence produced by the survey was of such nature, according to newspaper editorial comments, that it created misunderstandings, these being brought about by the material not being based on facts.

## 16 Colleges Threatened With N.C.A.A. Expulsion

CHICAGO.—The National Collegiate Athletic Association accused 16 of its member colleges of failing to comply with its sanity code on college athletics. The colleges involved face possible expulsion from the N.C.A.A. at the annual meeting in New York City next January.

The institutions affected were accused of giving aid to athletes over the limits prescribed in the association's sanity code, which went into effect on Jan. 10, 1948.

Names of the schools were not revealed. A two-thirds vote of the 270 members of the N.C.A.A. would be necessary for suspension. The outlawed schools would be dropped immediately from sports schedules of other members in good standing.

## Goal in Sight for McMurtry College

ABILENE, TEX.—More than \$3,000,000 worth of buildings, furnishings and capital endowment are to be dedicated November 1 as the full property of McMurtry College. Between the college and its goal is an indebtedness of \$200,000, all of which has been pledged by the 12 Methodist church districts that support the college.

Under the direction of Dr. Harold G. Cooke, president of McMurtry, a dedication drive reaching every Methodist church in the supporting area has been launched. Selected committees are at work in the churches to solicit and collect individual pledges.

## Asks That F.B.I. Investigate A.E.C. Scholarship Holders

WASHINGTON, D.C.—Students applying for scholarships with the Atomic Energy Commission would be investigated by the F.B.I. "as to their character, associations and loyalty," if a controversial amendment sponsored by Senator O'Mahoney (D.-Wyo.) is enacted.

Senator O'Mahoney planned to tack his proposal onto the Atomic Energy Commission appropriation bill. The "rider" declares that no part of Atomic Energy Commission's funds "shall be used to pay for a fellowship for any person who is a member of a party advocating the overthrow of the U.S. Government." The attorney general would be given authority to use the F.B.I. to investigate the fitness of a fellowship candidate.

Nearly all Washington educational and scientific groups oppose the amendment. The Washington Association of Scientists, for example, attacked it on the grounds that it would discourage able students from applying for fellowships.

The F.B.I. investigations that Senator O'Mahoney proposes would be in addition to the oaths of loyalty now required from all Atomic Energy Commission fellowship holders.

## G.I.'s Training for Overcrowded Fields

WASHINGTON, D.C.—As the Veterans Administration announces that nearly 100,000 veterans "are preparing for teaching careers," educators reply that most of the G.I. trainees are heading for already overcrowded teaching fields, owing in part to faulty guidance and advisement.

Of the 100,000 veterans taking courses in education, only 1499 are preparing for elementary school teaching, the area of greatest teacher shortage. Nearly 6000 are preparing for industrial arts, 7000 for general high school teaching, and—most unhappily—14,200 for physical education.

All three fields, especially physical education for men, have a surplus of teachers, according to the 1949 national teachers' supply and demand study completed by the National Commission on Teacher Education of the N.E.A.



## GIFTS AND BEQUESTS

- **Temple University** reports receipt of \$400,000 to be added to the university's hospital building fund. The gift was received from Dr. Theodore L. Chase of Reno, Nev., who practiced surgery in Philadelphia for many years. His most recent gift brings to \$1,000,000 the total amount he has given to establish the Agnes Barr Chase surgical research foundation in memory of his wife, who died in 1943.
- **King College** at Bristol, Tenn., recently received \$7150 from the estate of John F. Gross for the establishment of the John F. Gross Ministerial Endowment.
- **Yale University** announces receipt of \$2,000,000 from the Old Dominion Foundation of Washington. The gift is for an expansion of its program of psychiatric guidance for students. The foundation was established as a charitable corporation in 1941 by Paul W. Mellon, son of the late Andrew W. Mellon, one-time Secretary of the Treasury.
- **Vassar College** also has received \$2,000,000 from the Old Dominion Foundation. The gift is for a long-range educational program and an immediate and complementary counseling program for students. Other gifts recently announced by Vassar's president, Sarah Gibson Blanding, include \$24,000 in memory of Eleanor Dodge Child, a trustee from 1942 to her death last year, and a grant of \$37,500 from the Carnegie Corporation to help finance an expanded program of applied work in the social sciences.
- **Harvard University** reports that John D. Rockefeller Jr. has pledged \$5,000,000 on the condition that an additional \$5,000,000 in gifts or pledges from others, exclusive of bequests, be obtained by July 1, 1950. The \$5,000,000 pledged by Mr. Rockefeller is a part of the present drive to obtain the \$20,000,000 needed by the Harvard Graduate School of Business Administration.
- **DePauw University** received more than \$675,000 in gifts and bequests during the academic year 1948-49, President Clyde E. Wildman announces.
- **University of Pennsylvania** has received \$275,000 from the Penn Mutual Life Insurance Company for the erection of a heart clinic at the university's new medical center and for a grant to provide continued research on cancer.

• **Northeastern University** has established a scholarship loan fund of \$1000 annually as the result of a gift by the Jewish Vocational Aid Society. Interest-free loans will be granted to students with satisfactory records without regard to race or religion. The loan may not exceed \$150 a semester.

• **Pasadena College** in California was given \$80,000 recently by a trustee, Gustave L. Klassen of Terra Bella, to apply toward the construction of a men's residence hall.

## NAMES IN THE NEWS

**Ricardo A. Mestres**, temporary member of the administrative staff at Princeton University, has been appointed assistant to the vice president and executive director of the university fund.



L. V. Caine

has been named vice president of Jamestown College, Jamestown, N.D. He will be associated with **Dr. Samuel S. George**, who was named president July 15 to succeed the late **Howard James Bell**.

**Harold L. Minkler**, director of placement at Illinois Institute of Technology, Chicago, has been elected chairman of the cooperative education division of the American Society for Engineering Education.

**Charles J. Zalesky**, chief accountant of the student union at the University of Wisconsin, has been named chief accountant at Drake University, Des Moines, Iowa. He succeeded **J. Austin Miller**, who has entered into the public accounting field in Denver.

**Mrs. Anna Canada Swain** of Graigville, Mass., president of the Northern Baptist Convention and a member of the executive committee of the World Council of Churches, was recently elected to the board of trustees of Brown University, Providence, R.I. She is the first woman elected to the university board in its 200 years of operation.

**Robert H. McCambridge**, president of the graduate student council at Cornell University, has been named to succeed **Frank C. Abbott** as administrative assistant to the president. His appointment is effective immediately.

**Rev. William Brewster** has been named to the headship of Saint Stephen's School, Austin, Tex., which will open in the fall of 1950. The school calls for an enrollment of 60 boy and girl boarders and 20 day students. It will be located on a 400 acre site overlooking Lake Austin, 8 miles west of Austin.



Rev. W. Brewster

**Dr. John O. Gross**, executive secretary of the Division of Educational Institutions of the Methodist Board of Education, Nashville, Tenn., has recently announced the expansion of the division program and the enlargement of the staff. **Dr. Myron Wicke** of Baldwin-Wallace College, Berea, Ohio, has been named as head of the department of higher education within the division. **Dr. W. Albert Rush**, recently executive vice president of Adrian College, Adrian, Mich., will head the newly formed department of financial counseling. **Bernice Burroughs**, editor of special literature for the Methodist Board of Missions in New York City, has been named as an associate in the department of public relations. All appointments became effective in mid-July.

**Harry M. Gross Jr.**, business manager of Case Institute of Technology, Cleveland, since March of 1948, has been named treasurer of the institute. He succeeds **W. Griffin King**, who has retired as treasurer after filling the post since October 1941. Mr. King will retain a part-time connection with Case, continuing his work as secretary of the board of trustees and supervisor of its investment portfolio.

**Dr. Val H. Wilson**, director of the department of university pastor and student work for the Northern Baptist Convention, has been



V. H. Wilson

named administrative vice president of Colorado's Woman's College, Denver. As vice president, Dr. Wilson will assume many of **President Huchingson's** administrative duties and will free the president for public relations and general development work.



W. B. Grant

**W. Brewer Grant**, president of Consultants Associated, has been appointed director of development at George Williams College, Chicago, according to a recent announcement by **President Harold C. Coffman**. Mr. Grant has had considerable experience in the promotion and development field.

**Dr. Lee Jennings Ferry**, executive secretary of the McKinley Foundation at the University of Illinois, has been named vice president of Park College, Parkville, Mo. He will assume his new duties on September 1 and will have charge of public relations, fund raising and admissions.

**Charles Harman Foster**, member of the New York State Division of the Budget, has been named business assistant to **Dr. Alvin C. Eurich**, president of the State University of New York.

**James F. Clark** has recently been appointed director of commons and residence halls at the University of Southern California.

**Capt. Herbert J. Grassie**, commandant of the United States Naval Training Center at Great Lakes, Ill., has been named chancellor of Lewis College of Science and Technology, Lockport, Ill., according to a recent announcement by **Bishop Bernard J. Sheil**, president of the college. He will assume his new duties on September 1, having retired from the navy with the rank of rear admiral.

**Carrol Oscar Morong**, former Baptist pastor and administrator, has been named headmaster of The Peddie School, Hightstown, N.J. He accepted the appointment in July and began his duties immediately.



C. O. Morong

**William J. English**, for the last three years business manager of the Galesburg Division of the University of Illinois, has been appointed treasurer of Miami University, Oxford, Ohio. The Galesburg Division was recently closed.



W. J. English

**Dr. Carl C. Bracy**, president of McKendree College, Lebanon, Ill., has been named chancellor of Nebraska Wesleyan University at Lincoln. He will assume his new duties about September 1.

**Rev. Thomas A. Steiner, C.S.C.**, provincial of the Indiana Province of the Priests of Holy Cross, the religious order that administers the University of Notre Dame, announced the creation of four new vice presidential positions at the university. Under the new organization, the university will have five vice presidents, each charged with his own specific duties. **Rev. John J. Cavanaugh, C.S.C.**, president of Notre Dame since 1946, has been named president for another three-year term. **Rev. Theodore M. Hesburgh, C.S.C.**, has been named executive vice president; **Rev. John H. Murphy, C.S.C.**, who has served as vice president for the last three years, was named vice president in charge of public relations; **Rev. Howard Kenna, C.S.C.**, vice president in charge of academic affairs, and **Rev. John J. Burke, C.S.C.**, vice president in charge of business affairs. Father Burke previously held the position of business manager of the university. The fifth vice president is **Rev. Joseph Kehoe, C.S.C.**, who will be in charge of student welfare.

**Dean Henry L. Kamphoefner** of the school of design at North Carolina State College, Raleigh, and a member of the editorial advisory board of COLLEGE AND UNIVERSITY BUSINESS, has been named to membership on the national committee on education of the American Institute of Architects.

**Dr. Luther Hilton Foster**, president of Virginia State College, died recently at his home on the college campus at the age of 61 years. For many years he was a leader in Negro education in the South and had been elected as the fourth president of Virginia State College in 1943.

## DIRECTORY OF ASSOCIATIONS

### Association of College and University Business Officers

#### Central Association

President: Fred W. Ambrose, State University of Iowa; secretary-treasurer: L. R. Lunden, University of Minnesota.

#### Eastern Association

President: Boardman Bump, Mount Holyoke College; secretary-treasurer: Irwin K. French, Middlebury College.  
Convention: December 4-6, Chalfonte-Haddon Hall, Atlantic City, N.J.

#### Southern Association

President: C. B. Markham, Duke University; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.

#### Western Association

President: Alf E. Brandin, Stanford University; secretary-treasurer: James R. Miller, University of California.

#### Schools for Negroes

President: A. I. Terrell, Winston-Salem Teachers College; secretary: L. H. Foster Jr., Tuskegee Institute.

### Association of College Unions

President: Donovan D. Lancaster, Bowdoin College; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.

### Association of Physical Plant Administrators of Universities and Colleges

President: L. L. Browne, University of Arkansas; secretary-treasurer: A. F. Gallistel, University of Wisconsin.  
Convention: Yale University, New Haven, Conn.

### American College Public Relations Association

President: E. Ross Bartley, Indiana University; secretary-treasurer: Edward P. Vonderhaar, Xavier University, Cincinnati.

### College and University Personnel Association

President: Donald E. Dickason, University of Illinois; secretary-treasurer: Marion Darr, Purdue University.

### National Association of College Stores

President: Herbert Hays, Berea College; executive secretary: Russell Reynolds, 189 West Madison Street, Chicago.

### National Association of Educational Buyers

President: Holger B. Bentsen, George Williams College; secretary-treasurer: Bert C. Ahrens, 45 Astor Place, New York, N.Y.  
Convention: May 3-6, 1950, Houston, Tex.

# PRODUCT INFORMATION

## Index to "What's New"

Pages 64-67

### Key

303 John E. Sjostrom Co.  
Sectionalized Library Furniture

304 A. B. Dick Co.  
Minigraph Drawing Boards

305 The Glidden Company  
Chalkboard Coating

306 United Laboratories, Inc.  
Floor Surfacing Material

307 The Edwin F. Guth Co.  
Indirect Luminaires

308 Remington Rand Inc.  
Densigraph, Photocopy Camera

309 Walter G. Legge Co., Inc.  
Wood Floor Finish

310 Imperial Paper and Color Corp.  
Glendura Wallcovering

311 West Disinfecting Co.  
Insecticide Sprayer

312 Testa Mfg. Co.  
Laboratory Microscope

313 The Fischman Co.  
Bobtail Soda Fountain

314 Knoll Associates, Inc.  
Convertible Dormitory Room

### Key

315 Jackson Dishwasher Co.  
Automatic Timer

316 F. H. Sheldon & Co.  
Art Studio Furniture

317 Robert Moore  
Tennis Court Marking Tape

318 Neumade Products Corp.  
Slide File Cabinet

319 Dazoy Corp.  
Can Opener

320 Ebco Mfg. Co.  
Water Cooler

321 Doshier Metal Products Corp.  
Housekeeping Dormitory Unit

322 Davine Foods Inc.  
Plastic Dishes

323 International Nickel Co., Inc.  
"Basic Application Data"

324 Royal Metal Mfg. Co.  
Catalog

325 The Franklin-Lee Co.  
Bulletin No. 58

326 Sylvania Electric Products Inc.  
"Color is How You Light It"

### Key

327 Morse Bulmer Destructor Co.  
Bulletin No. 174

328 The Lash Moulding Co.  
"Bronze Mouldings, by Lash"

329 Detroit Steel Products Co.  
"Ponestra Stock Products"

330 Kewanee Boiler Corp.  
Catalog 80

331 Marsh Wall Products, Inc.  
Marlite Sample Folder

332 F. C. Huyck & Sons  
"Historic Remodeler"

333 W. B. Connor Engineering Corp.  
Dorex Bulletin 118

334 Associated Products, Inc.  
Catalog

335 G. H. Tennant Co.  
Bulletin No. 25

336 Pfaltz Brothers, Inc.  
Catalog

337 Toro Mfg. Corp.  
Toro Catalogs

USE THIS  
CARD

This card is detachable and is provided for your convenience in obtaining information on all items advertised in this issue. See reverse side.

### BUSINESS REPLY CARD

No Postage Stamp Necessary if mailed in the United States

2 CENTS POSTAGE WILL BE PAID BY

COLLEGE AND UNIVERSITY BUSINESS

919 NORTH MICHIGAN AVENUE

CHICAGO 11, ILLINOIS

FIRST CLASS  
PERMIT NO. 3  
SEC. 515 P. L. &  
CHICAGO, ILL.



# Index to Products Advertised

Key	Page	Key	Page	Key	Page
338 American Standard Mfg. Co. Dust Map .....	58	348 Fennell System, Inc. Floor Maintenance .....	4th Cover	359 Michaels Art Bronze Co., Inc. Exhibit Cases .....	48
339 Applegate Chemical Co. Marking Equipment .....	52	349 General Fireproofing Company Aluminum Chairs .....	41	360 Morilla Company, Inc. Artists' Materials .....	58
340 Baker & Adamson Products, General Chemical Div. Allied Chemical & Dye Corp. Laboratory Chemicals .....	49	350 GoldE Manufacturing Company Projector .....	58	361 New Castle Products, Inc. Movable Walls .....	52
341 Bausch and Lomb Optical Company Photo Contrast Accessories .....	44	351 Harold Supply Corporation Institutional Furniture .....	62	362 Perry, Inc., Parker D. Institutional Tableware .....	54
342 Ray Wall Paper Company Paper Towels .....	50	352 Hotpoint, Inc. Kitchen Equipment .....	3rd Cover	363 Peterson & Company, Leonard Laboratory Furniture .....	63
343 Carron Industries, Inc. Institutional Furniture .....	53	353 Huntington Laboratories, Inc. Floor Maintenance .....	48	364 Powers Regulator Co. Shower Mixers .....	43
344 Crane Company Plumbing Equipment .....	51	354 Kellogg Company Institutional Food .....	68	365 Remington Rand, Inc. Steel Book Stacks .....	42
345 Dick Company, A. B. Duplicator .....	63	355 Kimble Glass Laboratory Glass .....	45	366 Sanymetal Products Co., Inc. Toilet and Shower Compartments .....	47
346 Dudley Lock Corporation Locks .....	60	356 Knight, Richard C. Student Health Plan .....	50	367 Siles Co., Inc. Institutional Furniture .....	55
347 Electric Air Engineering Corp. Hair & Hand Dryer .....	45	357 Leoge Co., Inc., Walter G. Floor Maintenance .....	62	368 Simmons Company Institutional Furniture .....	66
		358 Modart Products, Inc., Fred. Gymnasium Equipment .....	57	369 Sloan Valve Company Flush Valves .....	6
				370 Southern Equipment Company Kitchen Equipment .....	54
				371 Stancel Asphalt & Bitumuls Co. Tennis Court Surfacar .....	58
				372 Universal Bleacher Co. Steel Grandstands .....	59
				373 Vestal, Inc. Floor Maintenance .....	46
				374 Wels Manufacturing Co., Inc., Henry Cabinet Showers .....	56
				375 Wickwire Spencer Steel Div. Wire Fence .....	60

August, 1949

Please ask the manufacturers, indicated by the numbers I have circled, to send further literature and information provided there is no charge or obligation.

## WHAT'S NEW

## ADVERTISEMENTS

31	310	317	324	331	336	345	352	359	366	373
32	311	318	325	332	339	346	353	360	367	374
33	312	319	326	333	340	347	354	361	368	375
34	313	320	327	334	341	348	355	362	369	
35	314	321	328	335	342	349	356	363	370	
36	315	322	329	336	343	350	357	364	371	
37	316	323	330	337	344	351	358	365	372	

TITLE

NAME

INSTITUTION

# It's *Goodform* for Greater Chair Value

REG. U. S. PAT. OFF.

**GOODFORM** Aluminum Chairs pay for themselves many times over—in lower maintenance, freedom from repairs and longer service life.

Because frames are of welded aluminum, they are rigid and permanently strong. They are fireproof, lightweight and easy to handle. They do not dent or bend, splinter or damage clothing.

Comfort and smart appearance are designed into Goodform chairs. Shaped seats and backs may be cushioned

with luxurious foam rubber. Colorful plastic-coated upholstery of your own selection contrasts effectively with the sparkling finish of natural aluminum.

Goodform chairs keep their good looks indefinitely. The hard, satin-smooth anodic finish is kept clean and bright by simple washing with soap and water.

Write for illustrated literature and the name of the Goodform chair distributor nearest you. The General Fireproofing Co., Dept. S-8, Youngstown 1, Ohio.

## GOODFORM ALUMINUM CHAIRS



## GENERAL FIREPROOFING

*Foremost in Metal Business Furniture*

Chair illustrated is Goodform No. 4310.



There is a complete line  
of GF metal furniture—  
desks, tables, chairs, files  
and shelving



# LB announces STEEL STACKS for IMMEDIATE DELIVERY!



**LIST PRICES  
CUT 25%**

## Now you can add those long-needed ranges

Your long-felt need for extra ranges of single tier, bracket book stacks can now be met by Library Bureau with *immediate deliveries* and *lower prices!*

Assured steel supplies now allow us to maintain plentiful stores of fabricated steel stacks for immediate delivery, and the use of steel instead of aluminum reduces list prices by 25%.

You can order wall or double-face stacks in standard depths of 8, 10, and 12 inches. Shelves are adjustable without removing books, and the improved bracket design increases the usable shelf length between brackets while also preventing damage to books by the knifing of them over brackets.

Our steel stacks are finished in the popular, oven-baked, mar-proof Gray-Rite enamel—a light, neutral tone that harmonizes with any surroundings.

Order your long-needed steel stacks now by phoning your nearest Remington Rand Inc. office or writing to us. For free booklets giving you further information on single tier or multi-tier book stacks, just check the coupon below and send it to us.

### NEW LB SUPPLIES CATALOG READY

The new LB Supplies Catalog has just come off the press. If you have not already received one, check the coupon, and we will send you a copy.



**LIBRARY BUREAU, DEPT. 8 K**  
**315 FOURTH AVE., NEW YORK 10, N. Y.**

**Remington Rand**

Please send me (check which)

- ☐ Single Tier Steel Bookstacks, LB 197A    ☐ Multi-Tier Steel Bookstacks, LB 424  
☐ LB Supplies Catalog, LB 419

NAME \_\_\_\_\_

POS. \_\_\_\_\_

LIBRARY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

Copyright 1949 by  
Remington Rand Inc.





Bathers can really relax and enjoy a Powers regulated shower. No danger of scalding. No unexpected temperature changes



**ONLY ONE MOVING PART**—SIMPLICITY and durable construction insure many years of efficient carefree operation. Mixer body is made of bronze and parts subject to wear have a hard chromium finish.

# POWERS

## TYPE H Thermostatic MIXER

For exposed piping  
Dial diameter 3 1/4"



For modern showers the  
Safety of Powers Mixers  
is indispensable



Safest for use by children,  
the aged or infirm.

# THE KEY TO SAFE SHOWERS



## Thermostatic SHOWER MIXERS

they are **SAFE** against scalding caused by

**1 PRESSURE or 2 TEMPERATURE**

fluctuations in water supply lines

**Just what every shower user has always wanted!**  
... the perfect showers assured by **POWERS** mixers.

**Safer**—because of their quick acting response to any change in temperature setting. pressure or temperature variations in water supply lines. Users report control within 1/2°F. **Greater Comfort**—shower temperature remains constant wherever set. No jumpy temperatures. **More Economical**—POWERS thermostatic mixers promptly deliver showers at just the right temperature ... no waste of time, hot and cold water.

For new installations or when modernizing obsolete showers ... play safe, use Powers type H thermostatic shower mixers. May we send Circular H-48?

CHICAGO 14, ILL., 2706 Greenview Ave. • NEW YORK 17, N. Y., 231 E. 46th St.  
LOS ANGELES 5, CAL., 1808 W. Eighth St. • TORONTO, ONT., 195 Spadina Ave.

4911K

**THE POWERS REGULATOR CO.**

OFFICES IN 50 CITIES • SEE YOUR PHONE BOOK

*Over 55 Years of Water Temperature Control*

*New!*

## Bausch & Lomb Simplified Phase Contrast Accessories

with { 1. Long Working Distance Condenser  
2. Turret-type Abbe Condenser

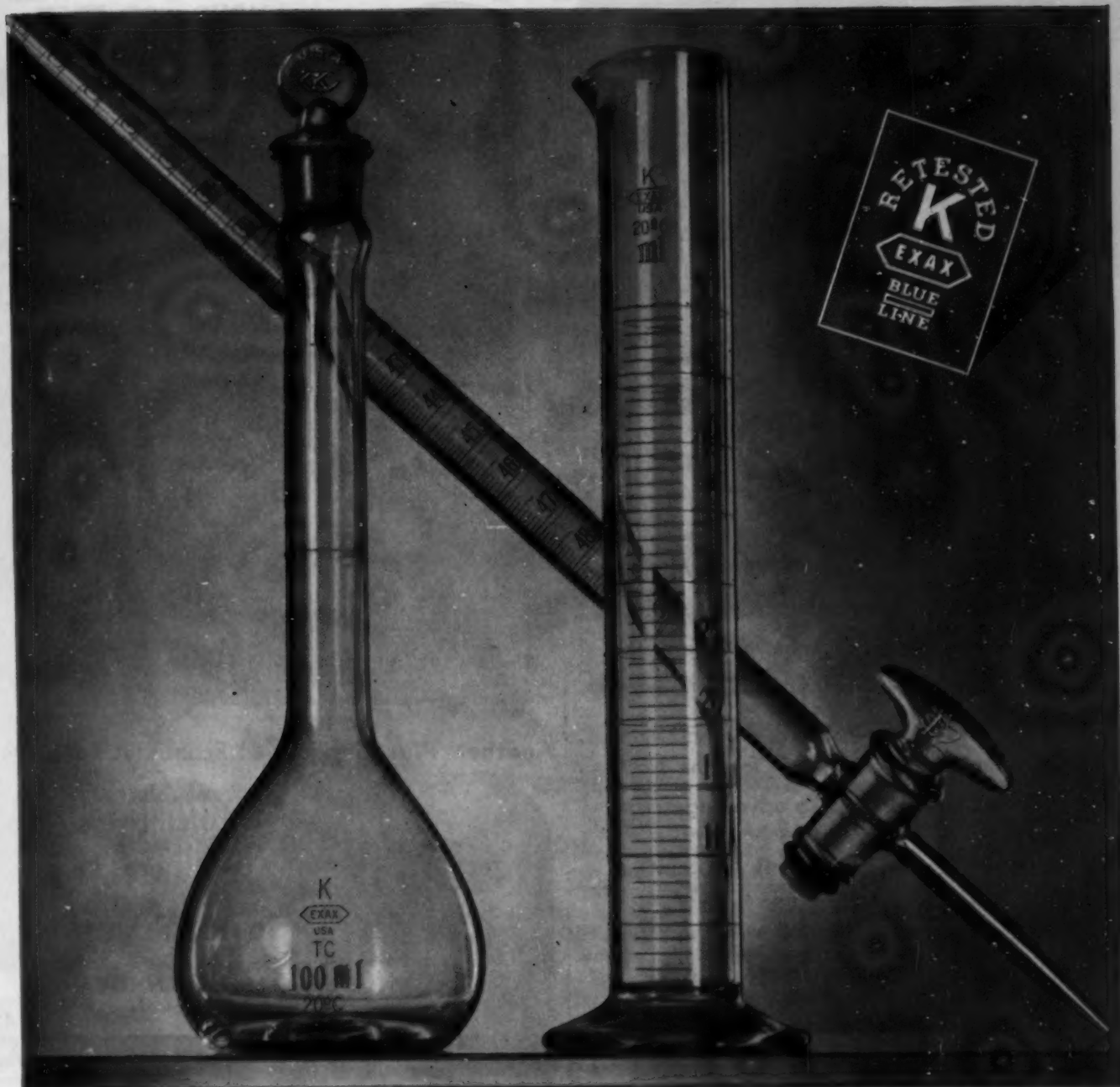


You requested it and here it is! The Individual Annular Stop *Long Working Distance* Condenser... for phase contrast examination of tissue cultures in flasks or chambers. Provides a long working distance... from 8mm to 10mm in air. Designed for quick, easy mounting on either Bausch & Lomb Research or Laboratory Microscopes. Utilizes *simplified* accessories similar to the turret-type. You get the same *top image contrast* from  $\frac{1}{4}$  wavelength annulus, positive contrast image, and balanced intensity of direct and refracted light beams... and the same speed, simplicity, and ease of operation.

*New!*

WRITE for your copy of Catalog D-104, just off the press. It contains important, newly published information on phase contrast principle and practice, as well as new complete information on both types of Bausch & Lomb Phase Contrast Accessories. Bausch & Lomb Optical Company, 767-H St. Paul Street, Rochester 2, New York

# BAUSCH & LOMB *Phase Contrast* ACCESSORIES



*Kimble EXAX RETESTED Flask No. 28015;  
Cylinder No. 20030; Burette No. 17030.*

## There's no substitute for EXAX RETESTED quality

● EXAX RETESTED is America's No. 1 choice for accurate laboratory determinations simply because it is made and intended for that purpose. EXAX won't bounce, but it is thoroughly annealed for toughness... will stand every day handling and usage.

The great value of EXAX RETESTED lies in certain exclusive advantages. It is a special formula of glass, precision-made by specialty craftsmen.

The fine deep graduations are of a type which readily accepts the permanent fused-in blue filler. And... all

calibrations are marked and checked and retested with standards of highest precision.

So remember, if accuracy and fitness for the job are important, there is no substitute for EXAX RETESTED glassware.

*Look for the Kimble "K," the visible guarantee of invisible quality.*

**KIMBLE GLASS** TOLEDO 1, OHIO  
Division of Owens-Illinois Glass Company







with  
the  
**NEW**

## PYRA-SEAL

Another Vestal first! Vestal PYRA-SEAL long recognized as the outstanding floor seal on the market is now *better than ever before*. The NEW PYRA-SEAL offers you NEW advantages in floor beauty . . . floor protection . . . floor maintenance economy. Only the NEW PYRA-SEAL has ALL of these advantages:

- \* The NEW PYRA-SEAL dries to touch in LESS than 2 hours. Can be steel wool-ed and given another coat after 4 to 5 hours drying time.
- ◆ **QUICKER DRYING**—Dries in half the time . . . your floors are back in service sooner.
- ◆ **60% to 80% MORE WEAR**—proved by tests with Taber Abrasers (the official precision instrument to determine wear and abrasion resistance).



Maple Flooring Manufacturers Assn.  
National Oak Flooring Manufacturers Assn.  
Leading Architects.

Write today for detailed information.

- ◆ **HIGHER GLOSS** yet maintains celebrated slip resistant safety.
- ◆ **EASIER TO APPLY AND MAINTAIN**—No lap marks; fewer rubber marks; does not rubber burn. Can be scrubbed without damage. A stronger, tougher, longer-wearing finish.

**VESTAL** INC.

ST. LOUIS • NEW YORK



## YOUR "CO-EDS" WILL APPRECIATE THIS!

Your students, teachers and house mothers will welcome ELECTRIC-AIRE Hair Dryers in the dormitories—even if coin is required to operate. It will be a PLUS service and considered as genuine thoughtfulness.



### Hair Dryers

This dryer gently blows a large volume of warm air, drying hair in 3 to 5 minutes, *reducing colds!* It also speeds washroom traffic.

Both coin and free service types are available. The coin operated runs 5 minutes for 5 cents; the free service shuts off automatically in 3 minutes.

The ELECTRIC-AIRE is engineered for hard, continuous service. It is backed by 28 years' experience. Quiet—safe—dependable. Economical to buy—install—operate.

## Another Plus Service & Economy Factor!



Surface Wall Mounted—  
Size 6 3/4" x 15"—Rugged



### Hand Dryers

Save 85% to 90% of Costs  
and ALL the ANNOYANCES  
of Towels

A few of the many schools and colleges using ELECTRIC-AIRE

School of Immaculate Conception — Jacksonville, Fla.  
Marquette University — Milwaukee, Wis.  
St. John of God School — Chicago, Ill.  
New York Board of Education — N. Y. C.  
St. Genevieve of The Pines — Asheville, N. C.  
Drake University — Des Moines, Iowa  
Catholic Memorial High School — Waukesha, Wis.  
Allied School of Mechanical Trades — Chicago  
Ohio University — Athens, Ohio  
Utah State Agricultural College — Logan, Utah

Send for full information about ELECTRIC-AIRE heavy duty Hair and Hand Dryers.

## Electric-Aire Engineering Corp.

Phone WE bster 9-4564

209 W. Jackson Blvd.

CHICAGO 6, ILL.

# Sanymetal "PORCENA"

\*Trade Mark Reg. U. S. Pat. Off.

(Porcelain on Steel)

## TOILET COMPARTMENTS

Sanymetal "PORCENA" CENTURY Type Ceiling Hung Toilet Compartments offer the utmost in sanitation and provide modern, distinctive toilet room environments for schools, institutions, terminals and other public buildings.

### How to Protect a Toilet Room Environment Against Premature Obsolescence

● There is one environment you can protect against premature obsolescence—the toilet room environment.

Toilet room compartments usually dominate a toilet room, influencing the toilet room environment. Sanymetal "PORCENA" (Porcelain on Steel) Toilet Compartments provide a generous measure of protection because of these features. Sanymetal "PORCENA"

(Porcelain on Steel) Toilet Compartments always look new, do not absorb odors, are moisture and rust proof and resist the corrosion of ordinary acids. The glistening, glass-hard, "PORCENA" (Porcelain on Steel) finish can be wiped clean as easily as a porcelain table top, and greatly reduces sanitation and maintenance costs.

Sanymetal "PORCENA" (Porcelain on Steel) Toilet Compartments combine the results of over 35 years of specialized skill and experience in making over 100,000 toilet room installations. Ask the Sanymetal Representative in your vicinity (see "Partitions" in your phone book for local representative) for helpful suggestions about planning suitable toilet room environments . . . Refer to Sanymetal Catalog #18 in Sweet's Architectural File for 1949.

**THE SANYMETAL PRODUCTS CO., INC.**  
1696 URBANA ROAD • CLEVELAND 12, OHIO

Sanymetal "PORCENA" ACADEMY Type Toilet Compartments are suitable for conservative but modern toilet room environments.

Sanymetal "PORCENA" ACADEMY Shower Stalls and Dressing Room compartments provide the utmost in sanitation for tourist camps, gymnasiums, clubs, Y.M.C.A.

# Sanymetal

\*Trade Mark Reg. U.S. Pat. Off.

"PORCENA" (Porcelain on Steel)

## TOILET COMPARTMENTS, SHOWER STALLS AND DRESSING ROOMS

Write for Sanymetal Catalog 86 which illustrates modern toilet room environments suitable for all types of buildings. Several attractive designs in a wide range of colors available. This catalog is also contained in Sweet's 31st Architectural File for 1949.

Sanymetal "PORCENA" NORMANDIE Type Toilet Compartments endow a toilet room environment with dignity and good taste.

# Winning Acclaim Everywhere

## MICHAELS' *Time Right* Exhibit Cases

These exceptionally fine exhibit cases are used extensively for college and university exhibits. They offer the utmost in visibility, while the exclusive innerlocking feature keeps exhibits free from dust, vermin and moisture, and affords protection against theft. Michaels Cases are available in many styles, or built to meet special requirements. Literature covering complete specifications will be sent on request.



★ MUSEUM CASE DIVISION OF

**The MICHAELS ART BRONZE CO., Inc., Covington, Kentucky**

Manufacturers since 1870 of many products in Bronze, Aluminum and other Metals

## Gym Floor, Dance Floor and Auditorium?



WRITE FOR DETAILS AND SAMPLE

NAME

SCHOOL

ADDRESS

CITY

STATE

## Penetrating SEAL-O-SAN

**Solves the Problem of the  
MULTI-PURPOSE FLOOR**

THE GYM used for public gatherings as well as class work will look *nicer, longer* if it is protected by Penetrating Seal-O-San. Seal-O-San provides a resilient surface that actually becomes part of the wood. It penetrates deeply . . . fills the pores . . . and reinforces the wood. Dirt and dust stay on the surface where they may easily be removed. Protect your gym floor with Seal-O-San. It pays for itself in lower maintenance and longer life.

HUNTINGTON

**HUNTINGTON LABORATORIES, INC.  
HUNTINGTON, IND.**



# Now Available to Chemists...



Since Baker & Adamson first introduced the Saftepak as a container for its reagent Hydrofluoric Acid, chemists the nation over have requested it as a laboratory dispensing bottle. They have been quick to recognize the many desirable features and unusual advantages of this shatterproof plastic container for handling and storing all liquid reagents.

Now, as a service to chemists everywhere, Baker & Adamson is making this exclusive B&A package available as a laboratory dispensing bottle for acids and reagent chemicals... to be filled by the user himself. For your requirements, consult the nearest B&A Office listed below.



†General Chemical Trade Mark

## Facts About the Saftepak:

The B&A Saftepak is made of pure polyethylene, a tough and resilient plastic which is inert or resistant to most chemicals, including organic solvents at ordinary temperatures. The extent of its applications is limited only by the properties inherent with polyethylene. These include resistance to most mineral acids and alkalis at temperatures up to 160° F. and organic solvents with temperatures less than 125° F. Also serviceable at temperatures down to -50° F.

## Advantages:

**OUTSTANDING POURING CONTROL**  
Pours drops, needle stream, or full flow depending upon your requirements.

**ACCURATE MEASURE**  
The "siphon-action" pour-out draws back into the bottle any drops clinging to lip when pouring stops.

**TRANSLUCENT**  
Liquid level always visible.

**EASY TO HANDLE**  
The Saftepak with its sturdy encircling label band fits conveniently into your hand for easy pouring.

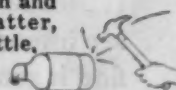


## RESISTANT TO CHEMICALS

Entire unit made of polyethylene, which is highly resistant to almost all liquid chemicals.

## SHATTERPROOF

The Saftepak is tough and resilient. Won't shatter, smash or become brittle.



## SCREW-TIGHT CAP

Easy reclosure; safeguards contents against contamination; also reduces possibility of spilling or leaking.

## LIGHTWEIGHT

No heavy bottles to handle. Holds 18 ounces.



# BAKER & ADAMSON *Reagents*

## GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N. Y.

Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport • Buffalo • Charlotte • Chicago • Cleveland • Denver • Detroit • Houston • Kansas City • Los Angeles • Minneapolis • New York • Philadelphia • Pittsburgh • Portland (Ore.) • Providence • St. Louis • San Francisco • Seattle • Wenatchee (Wash.) • Yakima (Wash.)

In Wisconsin: General Chemical Company, Inc., Milwaukee, Wis.

In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver

SETTING THE PACE IN CHEMICAL PURITY SINCE 1882

\* Complete stocks are carried here.



## "SOFT-AS-CHAMOIS" MOSINEE TOWELS HAVE HIGH "D-Q"

High "Dryability Quotient" is the outstanding feature you'll appreciate most in Mosinee Towels. But in addition to fast absorbency, they have chamois-like softness, plus great strength . . . and these, too, are efficiency factors appreciated by value-wise school management. Students quickly recognize the fact that wasteful use of these good towels is not necessary . . . for Mosinee Towels do what towels are intended to do, fast and well! You'll find it sound management to provide the superior service Mosinee Towels assure . . . and at reasonable cost, too!

**BAY WEST PAPER CO.**  
Green Bay, Wisconsin  
A Division of Mosinee Paper Mills Co.

**MOSINEE**

*Sulphate Towels*

PREP-TOWLS • ZIP-TOWLS • TRIM-TOWLS  
TURN-TOWLS • ROLTOWLS

# What is an "Individualized" Student Medical Reimbursement Plan?

The Student Medical Reimbursement Plan is a specially developed extension of group insurance offered through colleges and independent schools. By means of this Plan, existing on-campus Health Department services may be supplemented to provide all the "extra" outside medical and hospital protection needed by the institution against the costly disabilities that so often disrupt student life.

In short, this Plan, through extreme flexibility, is "individualized" to meet the needs of the institution. It adds only the elements of protection the school or college requires—nothing more—thus operating at lowest possible cost. It is a unique Plan protecting the student against large and unexpected medical bills, and bringing to the institution a comprehensive, fully integrated health program.

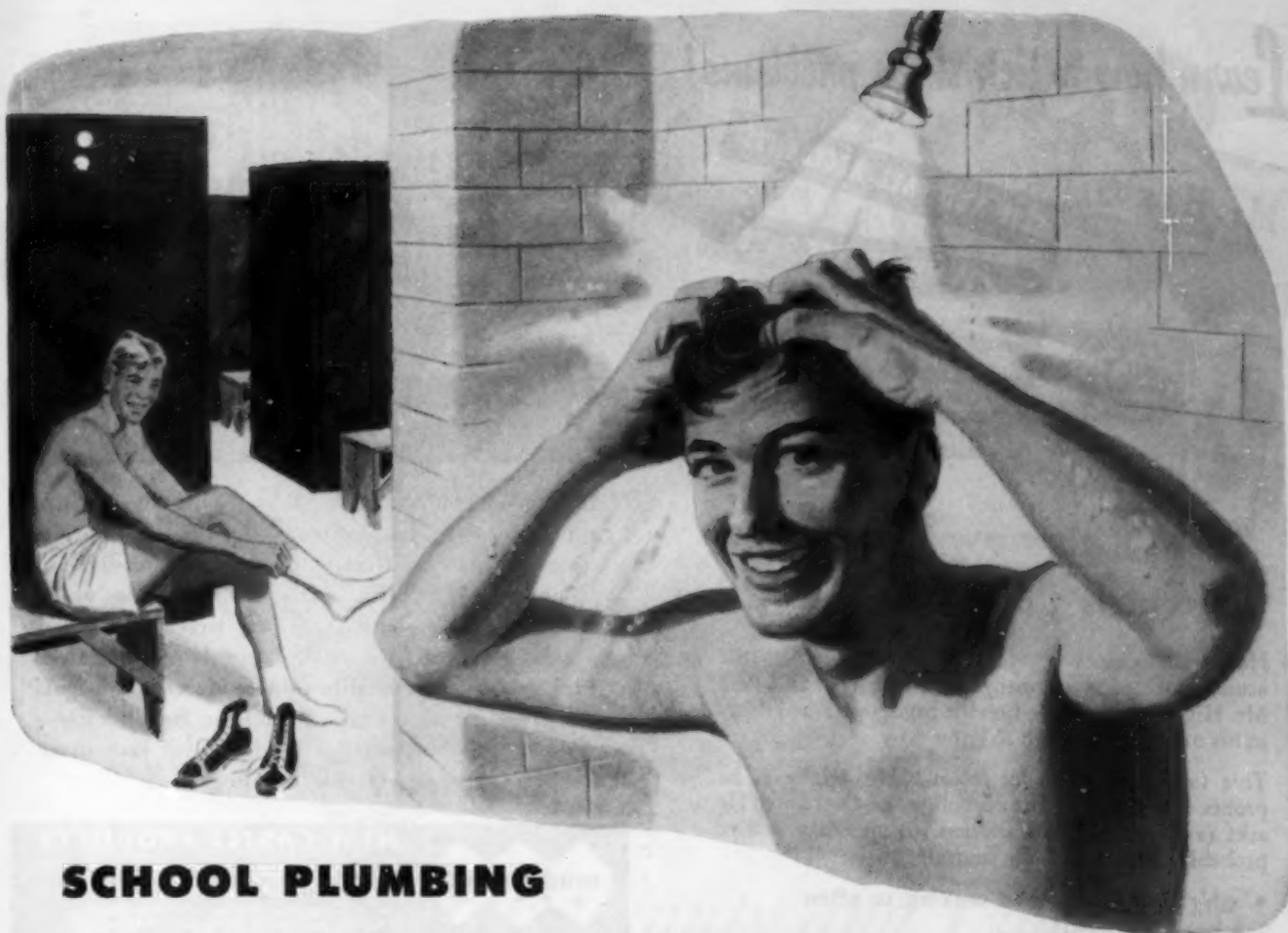
*Write for complete information concerning the advantages to be obtained for your institution from this specialized plan.*

**RICHARD C. KNIGHT**

*Medical Reimbursement Insurance*

112 Water Street, Boston 9

75 East Wacker Drive, Chicago 1



## SCHOOL PLUMBING IS ALWAYS GETTING A WORKOUT!

Day in, day out—through the whole school year.

Crane designers keep that in mind. They know that school plumbing fixtures are going to take a beating . . . they *allow* for it. That's why Crane fixtures stand up through year after year of hard school usage.

Crane builds this extra strength into a complete line of school plumbing—fixtures of a type and size for every college need. For full details, see your Crane Branch, Crane Wholesaler, or Plumbing Contractor, whether you plan a new installation or the modernizing of your present facilities.

# CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5

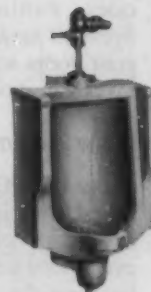
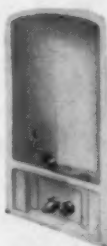
PLUMBING AND HEATING  
VALVES • FITTINGS • PIPE

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

Vol. 7, No. 2, August 1949

### Highest Sanitation

... Crane provides extra health safeguards to protect your students. Drinking fountains are designed to prevent any possible contamination. Shown: the C-9268 Corridor Fountain.



### Complete Selection

... The broad Crane line includes every last requirement in school plumbing—not only the fixtures, but the piping that makes them work. Shown: the 7-87 Correcto Urinal.



### Easy Replacement

... To renew one of these Dial-eze faucets, you merely slip out the old cartridge unit, slip in the new. One unit fits all Crane faucets. Shown: the 1-133 Oxford Lavatory.

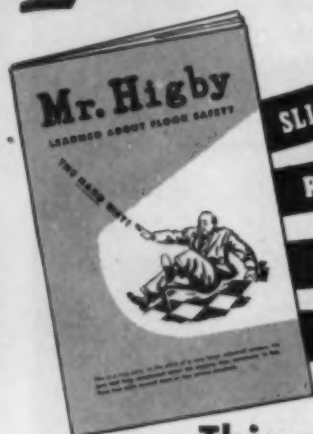


### Quick Cleaning

... It is easy with wall-mounted toilets like this one. Once over with a damp cloth, and Crane school fixtures shine like new. Shown: the 3-468 Lowwall Closet.



# Learn how to lick these problems!



**SLIP AND FALL ACCIDENTS**  
**RISING INSURANCE RATES**  
**HIGH HOUSEKEEPING COSTS**  
**DETERIORATING FLOORS**

## This new booklet reveals CAUSE and CURE

Here's 10 minutes of eye-opening reading . . . the actual story of a company president (we call him Mr. Higby) who flopped on the highly polished floors in his office, and wanted to know why.

This fast-moving booklet follows Mr. Higby as he probes into the little-known subject of floor care. He asks (and you learn the answers to) questions you've probably wondered about yourself:

- why your floors need waxing so often
- why they get slippery
- how much floor-care really costs

You'll find the explanations revealing . . . in some cases, startling. You'll also learn how the Legge System's *personal engineering* plan helps you maintain your floors scientifically with Non-Slip safety . . . and saves you money in the bargain!

### How to make floor dollars work harder

Many executives learned how to slice overhead costs from an earlier version of *Mr. Higby Learned About Floor Safety the Hard Way*. This up-to-date edition is even more informative . . . a complete executive handbook on the safe-and-sound care of floors. Now . . . before you spend another unnecessary floor dollar . . . send the coupon for your free, no-obligation copy.

Walter G. Legge Co. Inc.,  
 New York 17, N.Y. Branch  
 offices in principal cities.

**LEGGE**  
 SYSTEM

*of Non-Slip Floor  
 Maintenance*

JUST CLIP THIS COUPON TO  
 YOUR LETTERHEAD AND MAIL

Walter G. Legge Co. Inc.  
 101 Park Ave., New York 17, N. Y.  
 Please send me a free, no-obligation  
 copy of your *Mr. Higby* book.

Signed \_\_\_\_\_  
 Title \_\_\_\_\_  
 Type of floor \_\_\_\_\_  
 Area \_\_\_\_\_ sq. ft.

C-44



## Movable walls for classrooms

Here, Modernfold is used to divide the lecture room from the laboratory. These accordion-type doors are just as effective for other room division purposes. They are walls but movable ones! Closed, they assure absolute privacy; folded against the wall, the entire area is consolidated. The beautiful, washable fabric covering conceals a sturdy metal frame. Write for full details—and ask also how smaller Modernfolds save space for all types of interior openings.



**NEW CASTLE PRODUCTS**  
 New Castle, Indiana  
 In Canada: Raymond Mfg. Co. Ltd., Montreal  
 \*Consult your local telephone book  
 for the names of our Installing Distributors



### with the Applegate System

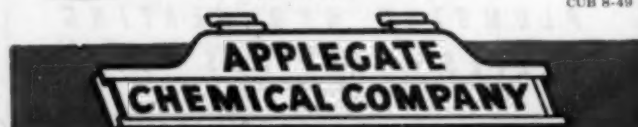
Use the Applegate marker . . . The ONLY inexpensive marker that permits the operator to use both hands to hold the goods and mark them any place desired.



USE  
 APPLAGATE  
 INKS

Applegate indelible (silver base) ink is everlasting . . . heat permanizes your impression for the life of the cloth, contains no aniline dye. Xanno indelible ink is long lasting . . . does not require heat.

CUB 8-49



5632 HARPER AVE.

CHICAGO 37, ILL.



## *..Unequalled for Beauty and Long Life*

Wood is remarkable for its strength and lightness. Engineers find it a superior material where high resistance to bending or compression is needed. Because of these qualities wood, through the ages, has had no equal as a material for fine furniture.

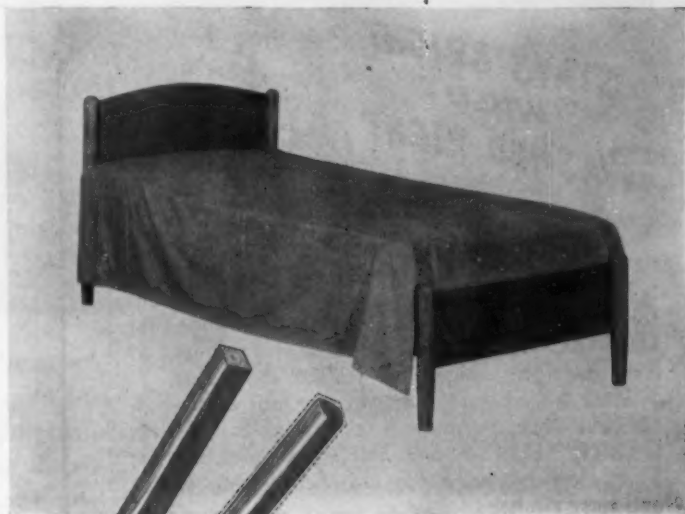
Not only is wood unequalled for a strength that gives long life to furniture . . . it is also unequalled for *beauty*. Wood, when fashioned and formed, polished and finished, possesses in a high degree a charm comparable to that which inspires man's admiration for fine paintings and objets d'art.

Carrom, however, does still more with wood than capture its beauty and utilize its strength in the fine furniture Carrom craftsmen produce. Carrom fine wood furniture is made exclusively for institutional use. By the extra care employed in selecting and seasoning hardwoods, forming posts, legs, bed stretchers and other vital parts from solid stock, and fitting joints securely, Carrom gives you institutional furniture unequalled for serviceability.

When you select furniture for your institution, do so with a view to permanence, beauty and economy. Choose Carrom Fine Wood Furniture made by craftsmen who "build for the decades."

**CARROM INDUSTRIES, INC., LUDINGTON, MICH.**

# CARROM



### *An Example of Carrom Strength*

Carrom bed posts are solid throughout, one piece from end to end, not "built up" but turned from a single, solid piece of Northern Hard Birch not less than 2½ inches square. Unnecessary strength? We think not. For, if the need ever arises, the margin of extra strength is there. Carrom construction withstands abuse as well as normal use.



**WOOD FURNITURE FOR  
COLLEGE SERVICE**

MOLDED

*Boontonware*



**TOUGH..**



**SLEEK..**



**STAYS BRIGHT  
WHEN  
WASHED RIGHT**



**QUIET..**



Nine lives and many more are easy claims for Boontonware. That's because it's molded of MELMAC\* by top-flight custom molders, at just the right weight for lasting durability.

Sleek, to be sure. Smooth, lustrous and available in four permanent pastel colors: BLUE, GREEN, YELLOW and BUFF. So quiet to use; a wonderful change for crowded eating rooms and busy kitchens.

Stays bright when washed with recommended detergents.

\*REG. U. S. PAT. OFF.

NATIONAL DISTRIBUTOR  
**PARKER D. PERRY INCORPORATED**  
729 Boylston Street, Boston 16, Mass.

Available at leading  
Hotel, Restaurant  
and Hospital Supply  
Dealers.

*Boontonware*  
*It lasts and lasts and lasts*

**QUALITY**  
...at NO premium in price!

"Custom-built by Southern"

and Dealer Installations

combine to **WIN**

**8 FOOD  
SERVICE  
CONTEST  
AWARDS**



\*\*\*\*\*

**Southern  
Leads All...**  
with MOST GRAND  
AWARD WINNERS  
plus 3 AWARDS of  
MERIT and 3  
HONORABLE MEN-  
TION AWARDS!

"Custom-built by Southern" Food Service Equipment selected by these 8 AWARD WINNERS represents only a few of the many business winning Southern installations operating profitably throughout the country.

The combination of "Custom-built by Southern" Dealers plus Southern's District Field Engineering Offices offers you complete cooperation of planning, layout, specifications, estimates on large or small installations BEFORE purchasing... assurance of the **FINEST** in Food Serving Equipment and Installation—fitted to your needs. Call your nearest Southern dealer expert today.

**THE WINNERS!**

GRAND AWARD  
**HERMANN HOSPITAL**  
Houston, Texas

GRAND AWARD  
**FAMOUS-BARR CO.**  
Clayton, Mo.

AWARD OF MERIT  
**CHARLIE'S CAFE EXCEPTIONALE**  
Minneapolis, Minn.

AWARD OF MERIT  
**NORTH AMERICAN LIFE & CASUALTY CO.**  
Minneapolis, Minn.

AWARD OF MERIT  
**HOTEL LA SALLE**  
South Bend, Ind.

HONORABLE MENTION  
**THE NATIONAL TODDLE HOUSE CORP.**  
Memphis, Tenn.

HONORABLE MENTION  
**THE DETROIT ATHLETIC CLUB**  
Detroit, Mich.

HONORABLE MENTION  
**TOLLER REXALL DRUGS**  
Sioux City, Iowa

**THE WINNING TEAM**

CUSTOM-BUILT BY SOUTHERN  
**SOUTHERN EQUIPMENT CO.**

YOUR "CUSTOM-BUILT BY  
SOUTHERN" DEALER

YOUR SOUTHERN DISTRICT  
ENGINEERING OFFICE

YOUR WINNING  
QUALITY INSTALLATION

Copyright 1949

**Southern EQUIPMENT CO.**  
5017 SOUTH 38TH STREET ST. LOUIS 16, MISSOURI



**SMART, NEW DORMITORY ROOM . . . BY SIMMONS!** *Attractive, all-steel furniture assures years of outstanding service . . . at low cost.*

**FOR RELAXATION OR STUDY . . . IT'S SIMMONS!** *No matter how large or small the room, Simmons Dormitory Furniture is your best buy.*



## *Beautiful Rooms* at **MARYMOUNT COLLEGE**

*with* **SIMMONS**  
*Dormitory Furniture*



STUDENT rooms at Marymount College are "homey" as well as comfortable. They're completely equipped with Beautyrest mattresses and Simmons all-metal furniture . . . the practical dormitory furniture that draws "straight A's" in beauty, construction and durability.

Other fine features of Simmons steel furniture are dresser drawers that never warp or stick . . . one-piece fireproof construction . . . welded supports . . . and the beautiful, long-wearing Simfast finish that doesn't mar or chip from constant use, spilled liquids, or exposure to heat and sunlight.

It will pay you to get more information on the low maintenance of Simmons furniture. See your Simmons distributor, or write to



↑ **SELECTION OF STYLE AND COLOR . . .**  
**SIMMONS** quality furniture . . . finished  
in your choice of rich grained, solid or  
two-toned color combinations.

# **SIMMONS COMPANY**

**DISPLAY ROOMS:**

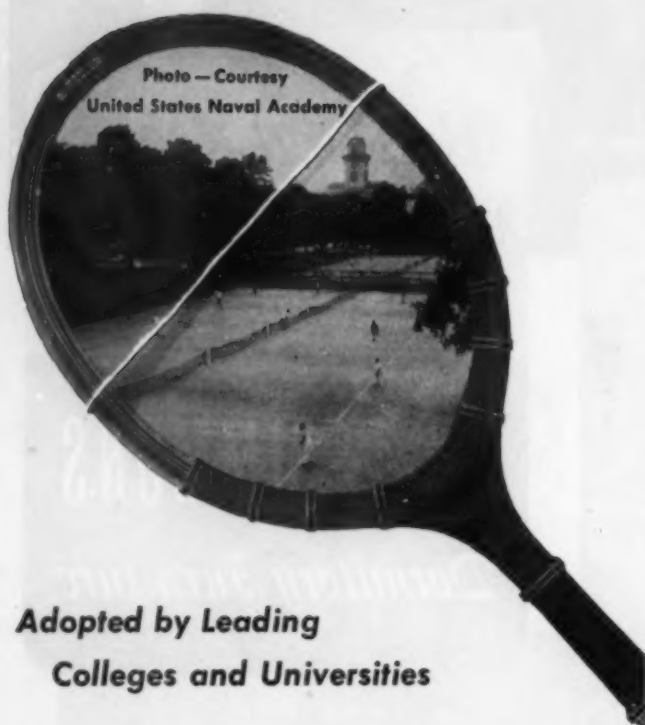
Chicago 54, Merchandise Mart • New York 16, One Park Ave.  
San Francisco 11, 295 Bay St. • Atlanta 1, 353 Jones Ave., N.W.

**The perfect playing surface**

**Laykold** and **GRASSTEX**

All-Weather

**TENNIS COURTS**



**Adopted by Leading  
Colleges and Universities**

**PLAYERS** like its comfortable resilience—its grit-free surface that stays true—glareless colors in Black, Red or Green—its fast game that builds champions.

**ADMINISTRATORS** like its year 'round playability (thrice that of clay)—moderate cost (less than rigid types)—economy in maintenance.

**ENGINEERS** like its precise ease of construction—its rugged durability—perfect drainage of its impervious surface.

In all parts of the country, there are Laykold and Grasstex Courts—some near you. An inspection trip can easily be arranged.

Before building new courts or re-surfacing old—send for these booklets. Ask for our specifications and free counsel.



**IN THE WEST—**

**STANCAL ASPHALT & BITUMULS COMPANY**  
200 BUSH STREET • SAN FRANCISCO 4, CALIF.

Los Angeles 14, Calif. • Oakland 1, Calif. • Portland 4, Ore. • Tucson, Ariz.

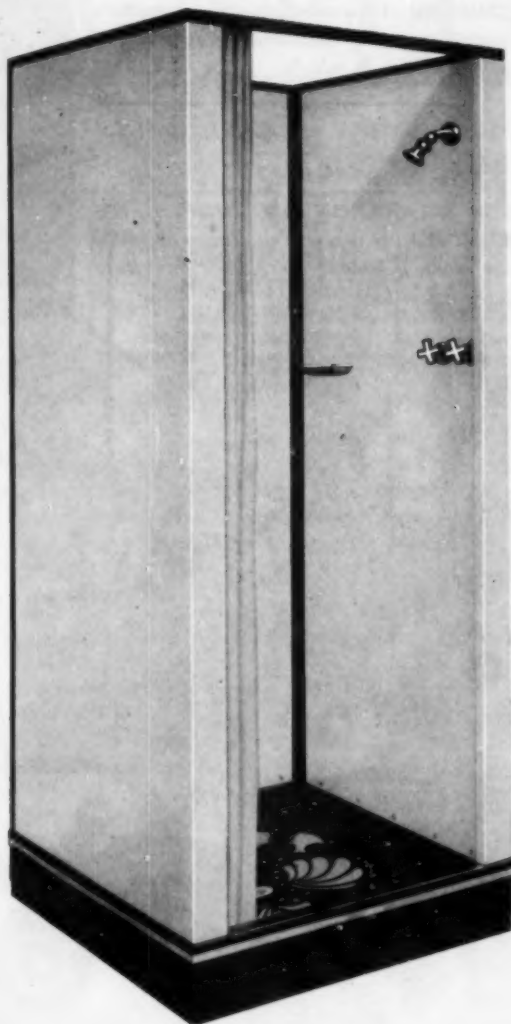
**IN THE EAST—**

**AMERICAN BITUMULS COMPANY**  
200 BUSH STREET • SAN FRANCISCO 4, CALIF.

Washington 6, D. C. • Baltimore 3, Md. • Perth Amboy, N. J. • E. Providence 14, R. I.  
Columbus 15, O. • St. Louis 17, Mo. • Baton Rouge 2, La. • San Juan 23, Puerto Rico



**More Livability  
for Dormitories**



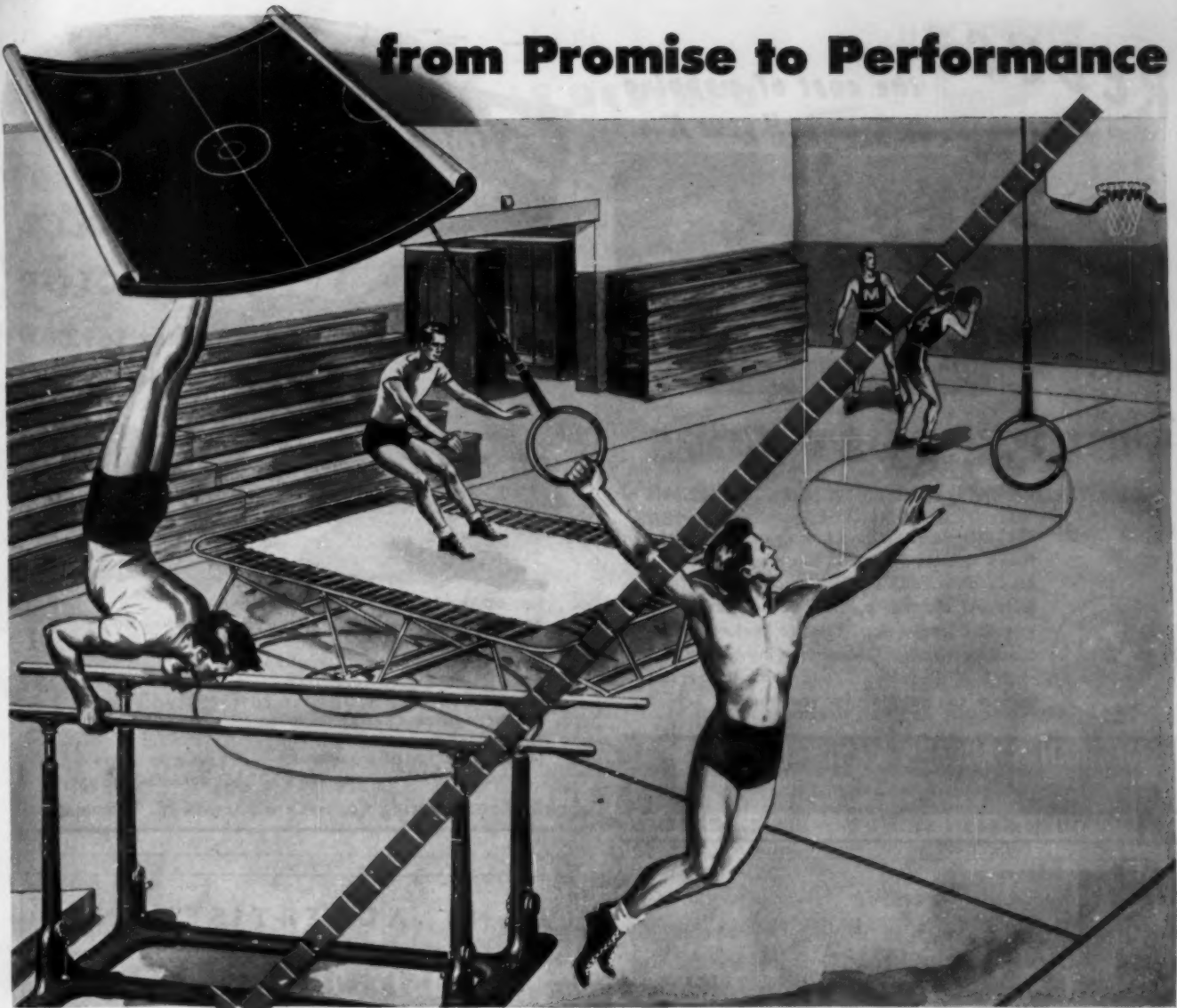
Modern Weisway Cabinet Showers are sound assets for the college or university. Weisways make handsome installations—but more important—they add to the enjoyment of bathing. They save on hot water, too!

They are completely leak-proof units, these lustrous white and jet Weisways. And they are easy to install in old or new dormitories without special preparation to building walls or floor. Precision-built of service tested materials they are sturdy and free from rattles. The Foot-Grip, No Slip floor of vitreous porcelain is safe and completely sanitary. Send for complete information on Weisway Cabinet Showers, no obligation, of course. Henry Weis Mfg. Co., Inc., 839 Weisway Bldg., Elkhart, Indiana.

**Weisway**  
**CABINET SHOWERS**

COLLEGE and UNIVERSITY BUSINESS

## from Promise to Performance



## rely on Medart... for complete planning service

WHETHER you're planning to install new Gymnasium Apparatus... Steel Lockers... Gym Seats, or all three, you'll want the advantages of Medart consultation and planning *first*. Because it's that first step... relating plans to needs, based on budget limitations, that prepares the way for proper installation... with none of the headaches of changed plans due to unforeseen problems... of unreckoned expenses that necessitate disheartening concessions from original plans. It may often mean the difference between a complete program and a compromise, partial one! It costs no more and results are sure... if you let Medart *put it on paper first!*

### MEDART MAKES

Gymnasium Apparatus  
Basketball Backstops  
Telescopic Gym Seats  
Basketball Scoreboards  
Acromat-Trampolin  
Steel Lockers  
Steel Lockerobes

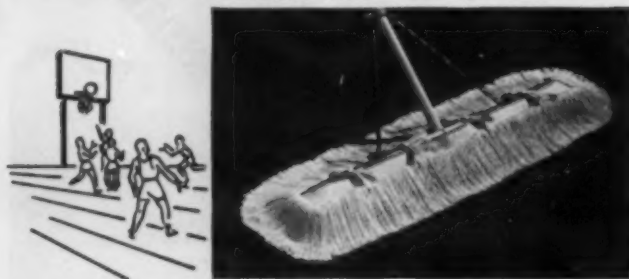


FRED MEDART PRODUCTS, INC.  
3535 DE KALB ST. ST. LOUIS 18, MO.

LEADERS FOR OVER 75 YEARS IN THE MANUFACTURE OF SCHOOL EQUIPMENT



**REDUCE** the cost of mopping  
class-room, gym, and all your floors



## "BIG X" DUST MOPS

made in various widths especially for school requirements

"BIG X"—a giant mop that keeps large-area floors spick and span with a minimum of time consumption. "BIG X" glides smoothly over floor surfaces; snatches up dust on contact. Husky—wears longer, too. Can be removed from block for washing! Order—and insist on getting—"BIG X" Dust Mops. Your supply jobber has them or can get them for you from



**AMERICAN STANDARD MANUFACTURING CO.**

MEMBERS OF THE NAT. SANITARY SUP. ASSOC. INCORPORATED 1908  
CHAS. E. KREBS AND WALTER O. KREBS

2511 SOUTH GREEN ST.

CHICAGO 8



*The Artist's Touch*

is inspired by

**ROWNEY'S**

artists' materials

*made in England since 1789*

In 1789, the year Washington took his presidential oath, Thomas and Richard Rowney opened a little shop in London to supply the needs of artists. Constable became their friend and customer; and the vitality of his canvases is an enduring testimony to the excellence of their wares.

Today, the same old-time skill, care, and craftsmanship employ scientific precision methods to produce a range of artists' materials of unsurpassed quality. For instance:

ROWNEY'S ARTISTS' WATER COLOURS are rigorously tested for permanence by exposure to 500 hours' direct summer sunlight.

ROWNEY'S ARTISTS' OIL COLOURS are manufactured according to standards approved by a chosen panel of first-rank artists.

ROWNEY'S CARBON PENCILS give the finest possible line without gloss.

Ask your dealer for these and other Rowney materials, such as Rowney's famous Hog Hair Brushes—or write direct to the importers

**The Morilla Company Inc.**

330 EAST 23<sup>RD</sup> STREET, NEW YORK 10, N.Y.  
819 SOUTH CORONADO ST., LOS ANGELES, CALIF.

Canadian Distributors, the A. R. Davey Company, 36-38 Wellington St., Toronto

**Show All Size Slides**  
...WITH 500 WATT BRILLIANCE!

**GoldE Master PROJECTOR**



**ONLY \$69.00**  
less bulb  
(slightly higher watt)

Takes 2 1/4 x 2 1/4  
Takes 2 1/4 x 3 1/4  
Takes any size from  
2 x 2 up to 3 1/4 x 4!

Try the New GoldE  
Reflex Binder for all  
2-1/4 x 2-1/4 transparencies.

WRITE FOR HELPFUL BUL-  
LETINS NO. 472A AND 490

SEE IT AT BETTER  
DEALERS EVERYWHERE

**GoldE Manufacturing Co.** 1222-S W. MADISON ST.

CHICAGO 7

## WANT ADVERTISEMENTS

### POSITIONS WANTED

**Comptroller or Business Manager**—Fully experienced college administrator; competent purchaser; successful supervisor and correlator of maintenance problems; detailed knowledge of college accounting; now employed; south, southwest or southeast favored. Write Box CW 68, COLLEGE AND UNIVERSITY BUSINESS.

**Food Executive**—Cafeteria and dining room; age 35; 17 years' experience; purchasing, cost control, menu making and general supervision; available at an early date. Write Box CW 52, COLLEGE AND UNIVERSITY BUSINESS.

### EMPLOYMENT AGENCY SERVICE

Placement and Vocational Service for University and College men and women. Home Economics graduates and Dietitians. We offer a personal employment service, of the highest ethical standards, to meet the individual requirements of Employees and Employers. Inquiries by mail given prompt attention. **WINSHIP PERSONNEL SERVICE**, 127 North Dearborn Street, Chicago 2, Illinois.

The rates for want advertisements are:  
10 cents a word; minimum charge, \$2.50.

Address replies to

**COLLEGE AND UNIVERSITY BUSINESS**

919 N. Michigan Avenue, Chicago 11, Ill.

WHERE *Beauty* IS DESIRED



*Durability* IS DEMANDED!



7636



7616



7619



800½



800

... specify SIKES FURNITURE! It is made exclusively from finest selected *hardwoods*... traditionally the designer's favorite material when creating *beauty* with *strength*. What medium other than solid Northern Birch could express in such durable fashion all the honest *charm* of these authentic Early American designs! The hard, hand-rubbed surfaces assure low maintenance cost, and the famous Sikes "Butterscotch" Maple finish adds *livableness* never before thought possible. Rugged, quaint Colonial design fabrics enhance the tasteful strength deep in Pioneer-derived construction.

The two Windsor chairs are of solid Cherry, with Ash back spindles for added strength. Ideal for dormitories and dining rooms—they are fresh and clean in line, yet sturdy, too.

Tell us of your requirements—perhaps we can give some helpful suggestions on how best to use Sikes Furniture... so *appropriate*, so *economical* for school use. Please state uses for which furniture is desired.

**SIKES** furniture

FOR DORMITORIES, DINING ROOMS, LIBRARIES, CLASSROOMS, OFFICES, RECEPTION ROOMS, CLUBS

THE SIKES COMPANY, INC.

32 CHURCHILL STREET

BUFFALO 7, N. Y.



# ALL OVER THE NATION

*it's Universal*



**TABLE OF SEATING CAPACITIES**

PLAN	LENGTH	ROWS HIGH	CAPACITY
No. 1	90'0"	8	520
No. 2	138'0"	10	1000
No. 3	198'0"	10	1430
No. 4	234'0"	12	2028

Need more seating to handle overflow crowds? Seat them on the world's finest—

*Universal* STEEL GRANDSTANDS

Select the plan you need from table at left—  
or specify your space measurements, or  
the number of seats you require.

Write today for complete Catalog and Prices

*Universal*

**BLEACHER COMPANY**

CHAMPAIGN

Bleacher Experts for Over 30 Years

606 SOUTH NEIL STREET

ILLINOIS



## BE ON THE SAFE SIDE . . . SPECIFY REALOCK FENCE

Put your property on the safe side of a tamper-proof Realock® Fence. You'll get permanent protection against trespassing, vandalism and other hazards.

Made of steel wire, heavily galvanized, Realock Fence is nationally known for its rugged good looks, indestructibility, and long-lived economy.

WRITE NOW FOR FREE ESTIMATE

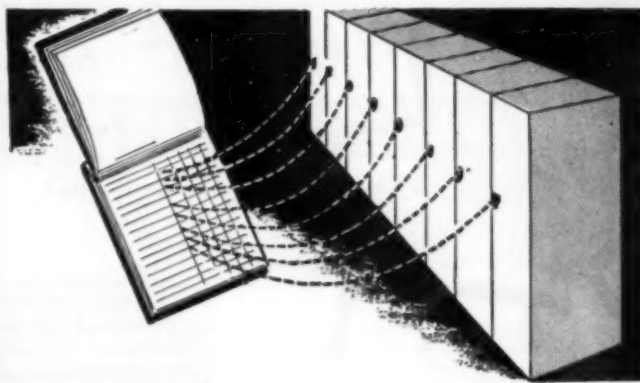


WICKWIRE SPENCER STEEL DIVISION  
301 DELAWARE AVENUE BUFFALO 2, NEW YORK

THE COLORADO FUEL AND IRON CORP.  
CONTINENTAL OIL BUILDING DENVER 3, COLORADO

THE CALIFORNIA WIRE CLOTH CORP.  
1080—10TH AVENUE OAKLAND 6, CALIFORNIA

BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE



## Keep locker control in your hands with Dudley's Master Chart



RD-2, above, has rotating combination dial. The Dudley Line includes master-keyed combination padlocks and built-in locks with unique, patented features.

Standardize on dependable Dudley Locks and let the Master Chart take over. No more inconvenience, wasted time or costly "cutoffs" because of lost keys or forgotten combinations.

The Dudley Master Chart gives an authorized person quick access to Dudley-protected lockers, keeps locker control in your hands.

No budget expense for schoolwide protection when you use the Dudley Self-Financing Plan. Write for details and catalog folder.

**DUDLEY LOCK  
CORPORATION**


570 W. MONROE ST., DEPT. 822  
CHICAGO 6, ILLINOIS



WHERE BETTERMENTS ARE DISTINGUISHING FEATURES...



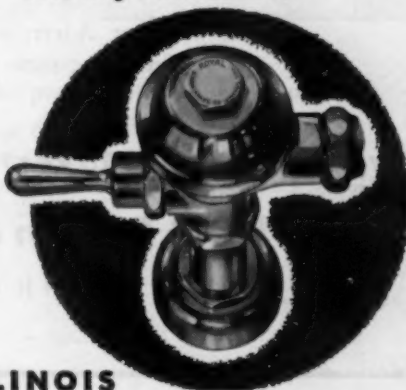
this  
sensational hotel  
is filled  
with surprises!

 In THE SHAMROCK HOTEL, Houston, Texas, every detail of facilities and service is the reflection of one dominant standard—"Only the best!" No two rooms are alike. All furnishings are luxurious and were specially designed. Each guest room has individual air conditioning. Each is equipped for its own television receiver. From the entrance to rear doors you'll find distinguishing features. They even store the garbage in a refrigerated room!

The Shamrock is a hotel of surprises, but it's no surprise to know it is completely equipped with SLOAN ROYAL *Quiet Flush VALVES*. These modern flush valves scientifically eliminate noise. The sound of rushing water is silenced to a murmur, thereby protecting guests against unnecessary annoyance. With Sloan Flush Valves, The Shamrock adheres to its rigid standard of "*Nothing but the best.*"

GLEN McCARTHY,  
*Owner*  
WYATT C. HENDRICK,  
*Architect*  
STONE & WEBSTER,  
*Supervising Engineers*  
TELLEPSSEN CONSTRUCTION CO.,  
*General Contractors*  
ASSOCIATED MECHANICAL  
CONTRACTORS  
*composed of C. WALLACE PLUMBING CO.,*  
*CHARLES G. HEYNE CO.,*  
*and DALLAS AIR CONDITIONING CO.,*  
*Plumbing Contractors*

more **SLOAN** *Flush VALVES*  
*are sold than all other makes combined*



SLOAN VALVE COMPANY • CHICAGO • ILLINOIS

**Royalchrome**  
DISTINCTIVE FURNITURE

Complete Line of  
TABLES & CHAIRS  
Write for Details



**EASY CHAIR**  
Spring-filled air-cushion seat and back—removable; reversible. Frame; lifetime Royalchrome plate. "Tuf-Tex" upholstery. 26" wide, 33½" deep.  
No. MA470 \$44.80  
Specify Color When Ordering

**THREE SEAT SETTEE**  
Spring-filled air-cushion seats and back—removable and reversible. Seat Cushions: 22" wide x 24" deep; 5½" thick. Upholstered in rich wear and stain resistant "Tuf-Tex" leathertex. Royalchrome plate size 70" wide 39½" deep.  
No. MA474 \$114.75 SPECIFY COLOR

**TWO SEAT SETTEE**  
Similar in construction to larger settee. Overall dimensions: 48" wide and 39½" deep.  
No. MA472 \$80.55

**UPHOLSTERED ARM CHAIR**  
With Sag-Style Seat  
Sled runner frame affords a semi-rocker motion. Marshall spring-filled air-cushion seat 17½" wide; 18" deep.  
No. MA798 \$24.75

**SIDE CHAIR**  
Shaped upholstered back, size 14½" x 10". Padded upholstered seat 16" x 15". Heavy gauge electrically welded frame. Royalchrome lifetime.  
No. MA16 \$14.35

**CHOICE OF UPHOLSTERY**  
ANTIQUE RED  
ANTIQUE IVORY  
ANTIQUE BLUE  
ANTIQUE TAN  
ANTIQUE BROWN  
OPAL GREEN

F.O.B. Ind. Factory

SERVING INSTITUTIONS FOR OVER 25 YEARS

**HAROLD**  
SUPPLY CORPORATION  
100 E. LEXINGTON, NEW YORK 17, N.Y.

**PETERSON...  
OUTSTANDING IN THE  
FIELD OF  
SCHOOL FURNITURE**

LABORATORY  
LIBRARY  
VOCATIONAL  
AND  
HOME  
ECONOMICS



From coast to coast, leading schools recognize Peterson's reputation for quality furniture for laboratory, library, vocational and home economics departments. What ever your requirements may be, call on Peterson's experts for an economic solution to your problems... No obligation is incurred.

**WRITE FOR  
FREE  
CATALOG**

**LEONARD PETERSON & CO., INC.**  
1228 FULLERTON AVENUE . . . . . CHICAGO 14, ILLINOIS

## LOOKING FOR SOMEONE?

Someone to fill a vacancy in your staff—a Business Manager—  
Superintendent of Buildings and Grounds—Purchasing Agent—  
Director of Food Service and Dormitories?

Or maybe you are thinking about making a change.

If so, consider placing a "Want Advertisement" in the next issue of College and University Business.

It costs but 10c a word (minimum charge of \$2.50) to place your story before the administrative officers of colleges and universities in this country and Canada.

"Want Advertisements" are working successfully for others—they can do the same for you.

WRITE TO: **Want Advertisements**

**COLLEGE and UNIVERSITY BUSINESS**

919 N. MICHIGAN • CHICAGO 11, ILLINOIS

## MAKE PROFESSIONAL LOOKING COPIES



### A Stylus for Every Need

For illustrating, ruling, lettering, writing. New roll-point stylus for handwriting. Three dual-point, 2-in-1 styli. Designed for fast, easy use. Attractive colors for easy identification.



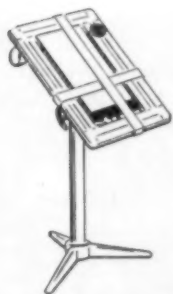
### Many Styles of Letters and Numbers

Lettering guides of molded plastic. Greater thickness for strength, easy handling.



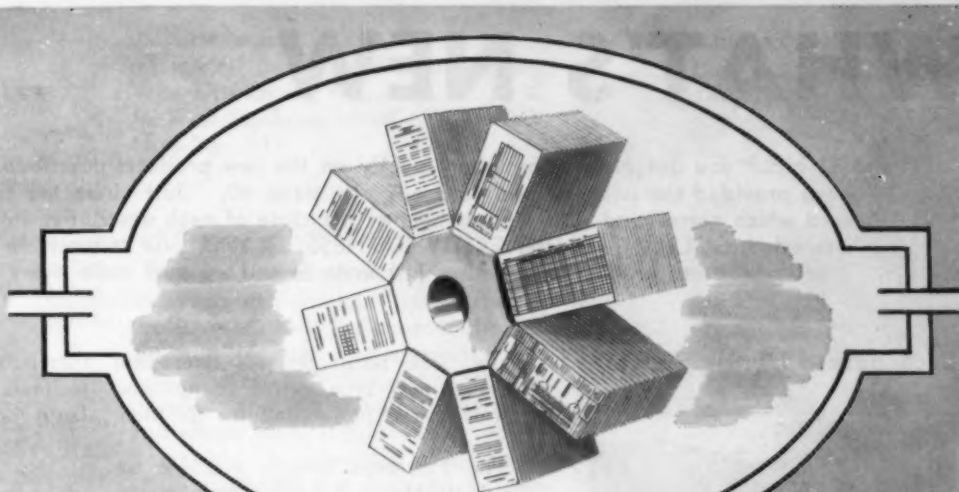
### Attractive Shades and Patterns

Screen plates in new large size to dress up your mimeograph work with shadings in many patterns. Sturdy plastic, restful amber color.



### Drafting Table Precision

The Mimeoscope® illuminated drawing board helps you to fast, easy tracing drawing, lettering. Shown here is the model 5 on Tiltoscope model 35 base.



## How to Oil Paper Gears!

A college is run by people. But the gears that keep it going are paper—reports, forms, bulletins, outlines, examinations—countless copies of anything written, typed or drawn.

That's an important job. If it's done swiftly, smoothly, and economically, you can handle more administrative detail. And it's a job in which A. B. Dick mimeographs are unequalled.

Fast production in handling a wide range of paper stocks and sizes is an easy matter with the complete line of A. B. Dick mimeograph. For use with all makes of suitable stencil duplicating products. Get complete details from your nearest A. B. Dick distributor, or send in coupon below.

### Mimeographing Is **BALANCED** Duplicating

Brings you all the essentials—legibility, speed, versatility, easy operation, and low overall cost—with no sacrifice of one for another.



# A.B.DICK

... the first name in mimeographing

*Mail this  
Coupon  
for more  
information*

### New Accessories make professional looking copies

A. B. DICK COMPANY, Dept. CU-849  
720 West Jackson Boulevard, Chicago 6, Illinois

Please send me more information on A. B. Dick mimeographs and new accessories.

NAME \_\_\_\_\_  
SCHOOL \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_



# WHAT'S NEW

AUGUST, 1949

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 40. Just circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

## Sectionalized Library Furniture



A new line of sectionalized library furniture recently developed is designed to afford variation and choice in the type of unit or units desired as well as flexibility of arrangement. Known as Sjostrom New Life Library Furniture, the line is built for efficient service, is characterized by flat planes, smooth surfaces and natural grain finishes and is made in a variety of selected woods, including birch, maple and oak.

The sectionalized construction permits assembly of Charging Desks in any number and combination. These sections include a knee space unit, charge unit, card file and shelving units, cupboard and corner units. Linoleum tops on the charging desks are durable and designed to reduce eye strain. Other Sjostrom library pieces, such as filing cabinets, dictionary stands and round and rectangular tables, are built with hardwood tops. Sectionalized shelving, with aluminum clip strips for easy and reliable shelf adjustment, permits various units, such as magazine and newspaper racks and glazed door cabinets, to be inserted as desired. John E. Sjostrom Co., Dept. CUB, 1715 N. 10th St., Philadelphia 22, Pa. (Key No. 303)

## Mimeograph Drawing Boards

Two new illuminated drawing boards designed to simplify tracing of illustrations and lettering and designing of ruled forms on stencil sheets have been announced. Model 4 is an inexpensive, light weight, portable model designed for small schools producing illustrated mimeographed copies and ruled forms. Model 5 is designed for precision drawing, lettering and forms. New, movable, calibrated vertical and horizontal ruling edges give drafting table precision and facilitate simultaneous design and stencilization of forms, graphs and

charts. The board features fluorescent lighting, new type stencil clamps and new slot type positioning for the stencil.

The Tiltoscope base is available for use with Model 5 for sit-down operation. This metal, pedestal-type base with swivel top action permits tilting of the board to any convenient working position. A. B. Dick Co., Dept. CUB, 720 W. Jackson Blvd., Chicago 6. (Key No. 304)

## Chalkboard Coating

A new paint for converting blackboards to the new green chalkboards has recently been announced. Known as Vismatic Green Chalkboard Coating, the new product can be applied over black slateboards in old buildings or directly on smooth plaster to provide a smooth writing surface in new buildings. The paint is easily applied with brush or spray gun and hardens in 48 hours to a dark green color which is lightened several shades after a few days of use. White chalk is used on this new Glidden coating. The Glidden Company, Dept. CUB, 11001 Madison Ave., Cleveland 2, Ohio. (Key No. 305)

## Floor Surfacing Material

Quartex is a new floor surfacing material designed to withstand elements such as alkalis, oil, grease, fats and similar products which are destructive to floors of asphalt and concrete. Applied directly over the old surface at a depth of approximately one-half inch, Quartex provides a strong, resistant floor. United Laboratories, Inc., Dept. CUB, 16801 Euclid Ave., Cleveland 12, Ohio. (Key No. 306)

## Indirect Luminaire

The new Guth Seelux is an indirect luminaire of modern design for use with Silver Bowl Lamps. Louvers are of spun aluminum with a fine emery-grained finish permanently protected with the Alzak Aluminum process. The Silver Bowl Lamp used in the luminaire contains the major reflector and the fixture can be restored to initial efficiency

merely by a lamp change. Open louvers facilitate maintenance. The Edwin F. Guth Co., Dept. CUB, 2615 Washington Ave., St. Louis 3, Mo. (Key No. 307)

## Photocopy Camera

An improved high-speed photocopy camera which is completely mobile to permit operation at points of need has recently been announced. Known as the Record Dexigraph, the camera is designed for copying all kinds of records with greater copying versatility and greater ease of operation. The machine can be rolled on casters from one department to another, as needed, thus saving transportation of valuable or confidential records, and it is operated through plugging into any standard 110 volt electrical outlet.

The developing of Dexigraph prints is a separate procedure, thus making possible higher output by continuous operation of the camera. Any record up to 9 3/4 by 14 inches can be copied at same size or at any of five reductions down to 50 per cent of original size. Larger records can be copied at various smaller sizes for easier handling and filing. Positive adjustments and an automatic timer make the Record Dexigraph easy to operate. The machine is of sturdy steel construction finished in Gray-Rite and storage space is provided by a built-in cabinet. Photo Records



Division, Remington Rand Inc., Dept. CUB, 315 Fourth Ave., New York 10. (Key No. 308)

### Wood Floor Finish

A solvent-type non-slip floor polish especially formulated for wood floors has been developed to permit hardwood floors and gymnasium floors to be polished to a high sheen without being slippery and with high resistance to scuffing and traffic wear. Known as Trafco, the polish has special ingredients in the formula which loosen dirt so floors can be cleaned and repolished in one operation.

Buffing gives the finish an attractive sheen which is more non-slip than before buffing and Trafco is designed to resist the tracking effect of heavy traffic and the skids and stops of fast play on gymnasium floors. **Walter G. Legge Company Inc., Dept. CUB, 101 Park Ave., New York 17. (Key No. 309)**

### Soilproof Wallcovering

The new Glendura Soilproof Wallcovering is designed to resist soiling and to be easily washed clean of soil and stains of all kinds. It is available in a variety of attractive designs and color combinations and is light-resistant, mildew-proof and impervious to fungus and mold stains. It is handled like wallpaper, is soft and pliant, yet strong. The new wallcovering is the result of a new process, developed after many years of research and testing, whereby each pigment particle used in coloring the wallcovering is sealed in a synthetic resin. **Imperial Paper and Color Corp., Dept. CUB, Glens Falls, N.Y., (Key No. 310)**

### Insecticide Sprayer

The new West Mistorizer is an insecticide sprayer designed to provide efficient insect control. The new model automatically sprays insecticides faster and farther than previous models. It requires no filters, oiling or greasing, is leakproof, has hermetically sealed ball bearings and operates on AC or DC.



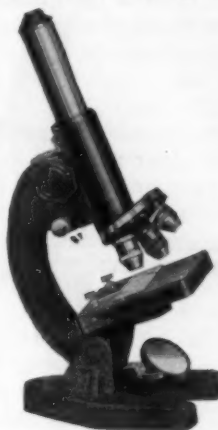
The unit runs wet or dry and permits instant, continuous full pressure spraying. The low center of gravity makes

the new sprayer easier to handle and minimizes the possibility of tipping. **West Disinfecting Co., Dept. CUB, 42-16 West St., Long Island City 1, N. Y. (Key No. 311)**

### Low-Cost Laboratory Microscope

A new standard laboratory microscope has been developed which features professional quality of lenses and mechanism at low cost. The new instrument, known as Model F, has a parfocal triple nosepiece and carries standard eyepieces and objectives of high resolving power. The stand is substantial and can be tilted. Every moving part can be compensated for wear.

The instrument has an adjustable draw tube as well as coarse and sensitive fine adjustment by means of cam shaft in separate dovetails. The substage consists of a removable condensing lens and an iris diaphragm allowing critical adjustment of the light reflected



from the large plano and concave three-motion mirrors underneath, as is needed for oil immersion work. The standard Model F is furnished with one eyepiece and three objectives, covering a range from 100 to 600 X, but a complete line of standard eyepieces and objectives is available permitting magnification up to 1500 X at high numerical apertures. **Testa Mfg. Co., Dept. CUB, 418 S. Pecan St., Los Angeles 33, Calif. (Key No. 312)**

### Bobtail Fountain Combination

A new, streamlined, stainless steel soda fountain has recently been announced by Fischman which offers unusual workboard and sterilizing facilities. This bobtail-type soda fountain is 6 feet 10 inches in length and is designed for installation within a counter, in conjunction with an ice cream cabinet, sandwich unit or steam table. An extra jumbo sized sink for sterilizing purposes is a feature of the new unit. **The Fischman Co., Dept. CUB, 10th & Allegheny, Philadelphia 33, Pa. (Key No. 313)**

### Convertible Dormitory Room



Furniture specifically designed for use in rooms which must serve as living room, bedroom and study has recently been introduced by Knoll Associates. Known as the Knoll Convertible Room, the new furniture, of particular value in dormitories or staff living quarters, is modern and simple in line, made of handsome woods and covered with fabrics of beautiful texture and color. It is durably constructed of fire-resistant materials and table and chest tops are finished with Parkwood.

The attractive sofa, when the room is used as living room, is readily convertible into a single bed, by the adjustment of a simple swing back. The foam rubber mattress rests on box springs which stand on 6 inch legs. The ingeniously designed chest in this unit serves a threefold purpose. It provides chest space for storing clothing and other necessities and serves as a desk or dressing table, depending upon the use desired. Louvered drawer fronts eliminate the need for hardware. The top drawer is lined with Formica and the front of the top drawer in one section is hinged, opening out to form a desk. On lifting the lid of the drawer in the other section, a mirror converts the chest into a dressing table. An attractively designed arm chair with upholstered seat and back, straight, small arm chair with molded plywood seat and back and attractive tables with modern, simple lines are also designed for use in this room. **Knoll Associates, Inc., Dept. CUB, 601 Madison Ave., New York 22. (Key No. 314)**

### Automatic Timer

A new automatic timing device is now available as optional equipment on all Jackson dishwashers. With the new timer the operator needs only to push a button and the dishwasher automatically goes through the wash and rinse cycle, then shuts itself off, thus ensuring the correct amount of time for proper washing, rinsing and sanitizing operations. **The Jackson Dishwasher Co., Dept. CUB, 3703 E. 93rd St., Cleveland 5, Ohio. (Key No. 315)**



### Art Studio Work Shop Furniture



Because of the rapid advances made in art education during the past few years, E. H. Sheldon & Company consulted with a large number of city, county and state art supervisors before developing their new line of Art Studio Work Shop Furniture which is now available. Designed to meet the new requirements, the line is attractive in appearance, functional and durable. It includes all types of equipment needed for a complete art work shop, including storage and display cases, tables, benches, shelves, easels and horses, desks and other items.

The new line of art furniture is made of carefully selected materials, strongly constructed for stability and hard use with a high quality of finish. All units have been designed to fit the modern need in art education of diversification and flexibility and thus most of the equipment is movable, allowing for re-planning and redesigning of the art room to meet a wide variety of demands. Facilities for display and storage are also taken into consideration in the new line. E. H. Sheldon & Co., Dept. CUB, Muskegon, Mich. (Key No. 316)

### Tennis Court Marking Tape

Polymoore White Metal Tape has been developed for marking tennis courts to overcome the disadvantages of other marking material. The coated metal tape has a surface sufficiently hard that dirt and grime will not cling to it and thus it is easily cleaned by brushing. Both sides are coated to ensure long wear and the tape is designed to be reversed each year to prolong the life.

The tapes are fastened to the court with special nails staggered along both edges, thus ensuring that any slight stretch in the tape will be ironed out as the court is rolled. The tapes can be left on the courts all year, regardless of weather conditions. The cost, including the special nails, is less than that of similar marking methods, according to the manufacturer. Robert Moore, Dept. CUB, 158 Valley Rd., Montclair, N. J., (Key No. 317)

### Slide File Cabinet

The new Neumade slide file cabinet is a professional type all steel cabinet built with 5 specially constructed

drawers, so divided as to hold all types of 2 by 2 inch slides, or sectioned for sequence filing of slides. It is available with either type drawer or with a combination of both types in the one cabinet, all drawers having tabs for indexing.

The cabinet is 15 inches wide, 12 inches deep and 13 inches high, a size and style similar to that of the Neumade filmstrip cabinet Model MF6, thus making it possible to combine the two cabinets for building a library of filmstrips and slides. Neumade Products Corp., Dept. CUB, 427 W. 42nd St., New York 18. (Key No. 318)

### Can Opener

Those responsible for cafeteria and lunchroom operations will be interested in the new Dazey heavy duty can cutter, Model No. 500, which is designed for handling institutional size cans. The new cutter is mounted where needed



and will handle cans of every size and shape. Cans are suspended firmly until removed and are opened smoothly, regardless of size. A thumb screw lock on the base plate holds the operating bar at any desired height. Cans of unlimited height can be opened by merely turning the cutter around. Dazey Corp., Dept. CUB, 4301 Warne Ave., St. Louis 7, Mo. (Key No. 319)

### Water Cooler

Three models of the Oasis electric drinking water cooler have the new Oasis, hermetically sealed, static condensing unit which has been developed for quiet, trouble-free operation. The unit is air-cooled by natural air currents, resulting in lower operating costs and reduced service requirements. The new unit is available on the OP-5-S 5 gallon pressure bubbler model, the OB-R-S triple-purpose ice cube, bottle compartment model and the newly restyled bottle cooler, the OB-2-S. Ebco Mfg. Co., Dept. CUB, 401 W. Town St., Columbus 8, Ohio. (Key No. 320)

### Housekeeping Dormitory Unit

A triple-duty dinette unit recently announced should be of interest in those buildings designed to house faculty members or married students. Consisting of a table and two benches, the Triple-Duty Dinette Set is built of steel, bonderized to prevent rusting and finished in chip-proof baked enamel. Legs of tubular steel, finished in chromium, are equipped with plastic glides. The benches are upholstered in mar-proof, waterproof DuPont Fabrilite plastic.

The benches fit under the table, thus conserving space when not in use. One bench conceals a fully padded, strong and rigid, one piece ironing board which rises to position when the hinged seat is swung open. The other bench provides storage space for linens, towels or kitchen utensils under the hinged seat. The unit is sturdily constructed and sells at an economical price. Doehler Metal Products Corp., Dept. CUB, 192 Lexington Ave., New York 16. (Key No. 321)

### Functionally Designed Plastic Dishes

Devine plastic tableware, which has been tested in use in other fields and has come through with favorable reports, is now being made available to institutions. Functionally designed for maximum efficiency in use, in storage and in handling, the ware is attractive, can be washed by hand or in automatic dishwashers and can be boiled or autoclaved if desired. It is made of Melmac, molded by General Electric, and is tasteless, odorless and light in weight. It also has an insulating quality which keeps foods hot or cold for reasonably long periods. The light weight facilitates handling and the functional design, which permits cups to be stacked to any height, as one example, saves storage space and allows ventilation between pieces while stored.

Among the interesting items is a plastic nesting bowl set containing standard measurements of 1, 2 and 4 quarts, 1 pint, 7, 10 and 12 ounces, all with covers which fit tightly, thus protecting foods in storage and so designed that the bowls can be stacked one upon the other. The ware is durable and hard to break, it has a non-absorbent, high gloss



finish and it is available in six attractive colors. Devine Foods Inc., Dept. CUB, 1500 S. Western Ave., Chicago 8. (Key No. 322)



## Product Literature

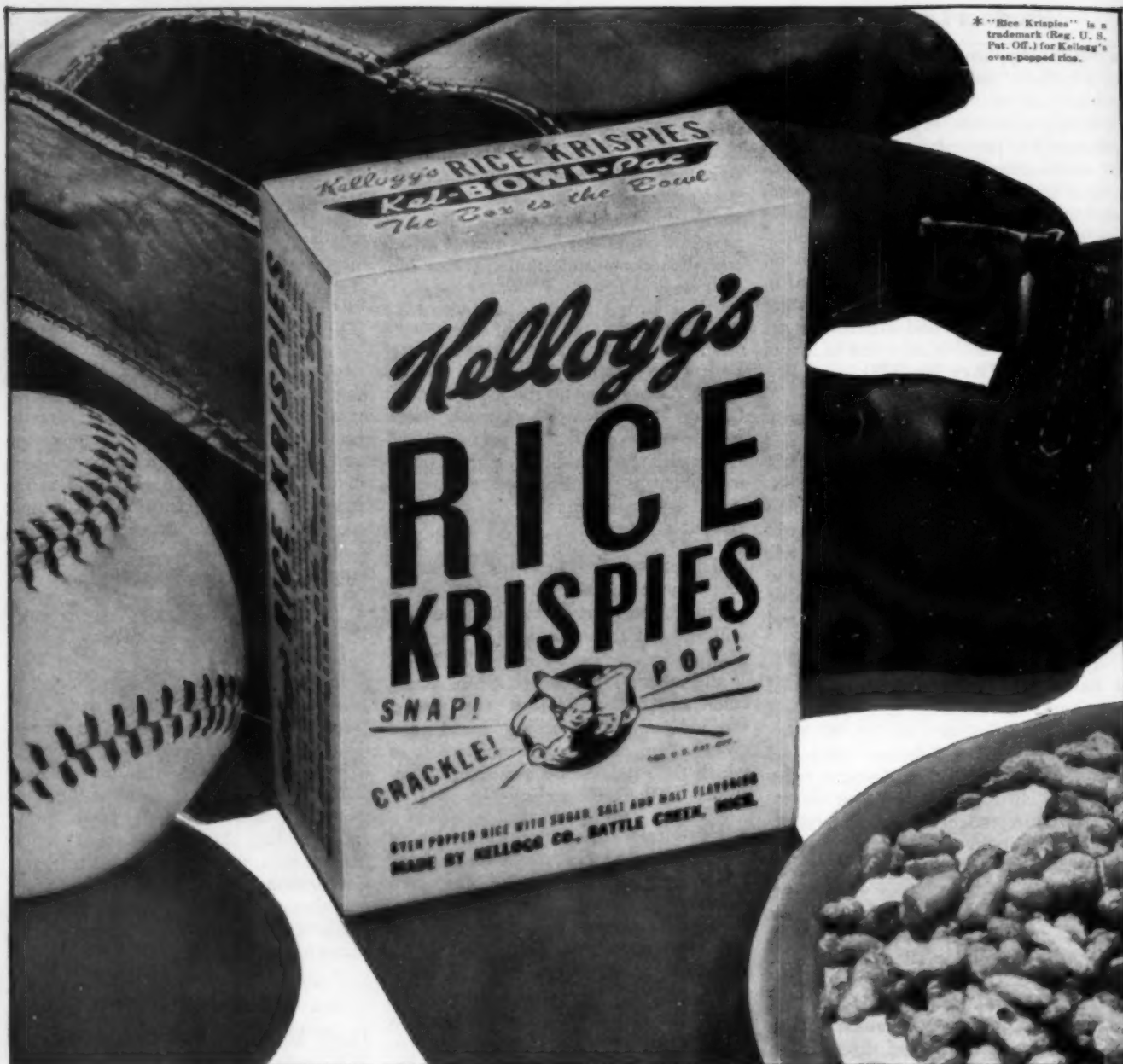
- "Basic Application Data" is the title of a bulletin issued by the International Nickel Co., Inc., 67 Wall St., New York 5, to help architects, engineers and others concerned to prevent roof failures caused by unusual climatic conditions or atmospheric concentrations of smoke, fumes and other corrosives. Suggested gauges for principal exterior building applications of Monel roofing sheet, based on existing Monel installations, are listed in the folder which also gives fabricating and installation tips and information on the availability and relative cost of Monel roofing sheet. (Key No. 323)
- "Royalsteel Distinctive Metal Furniture" is the title of an attractively laid out and printed 16 page catalog published by Royal Metal Mfg. Co., 175 N. Michigan Ave., Chicago 1. In addition to excellent photographic illustrations of these arm chairs, executive chairs, side chairs, tables, settees and costumers, the descriptive information gives details of the precision construction of this steel furniture. (Key No. 324)
- Bulletin No. 58 on Modern School Furniture has recently been published by The Franklin-Lee Co., 215 W. 68th St., Chicago 21. Equipment described includes movable student desks, tubular steel side chairs and tablet arm chairs, pedestal base student and library tables, folding tables and teachers' desks. (Key No. 325)
- A comprehensive study by Sylvania Electric Products Inc., 500 Fifth Ave., New York 18, of the effect of artificial light on color has been reported in a booklet, "Color Is How You Light It," issued by the company. Results of the study furnish a method of determining which of the six different tones of white light now available are best suited to different colors of paints and fabrics. (Key No. 326)
- The various types of Morse Boulder Destructors and Kernerators for handling all kinds of waste, garbage and refuse, with details as to capacities, sizes and dimensions, are described in the new 8 page Bulletin No. 174 issued by Morse Boulder Destructor Co., 205 E. 42nd St., New York 17. (Key No. 327)
- "Bronze Mouldings by Loxit" is the title of a folder issued by The Loxit Moulding Co., 1217 W. Washington Blvd., Chicago 7, giving pictorial and descriptive information on the many bronze mouldings made by this company. The bronze mouldings are described as presenting permanence, safety and beauty in the one product for all types of institutional buildings. (Key No. 328)
- Steel windows and doors complete with hardware, that are carried in stock by local dealers for quick delivery, are listed in a new 28 page catalog, "Fenestra Stock Products," recently issued by Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit 11, Mich. Installation details, typical applications and stock types and sizes are shown for storm windows and screens, Fencraft projected windows and metal swing and slide doors and frames. (Key No. 329)
- Technical data, ratings, measurements and other material on "Kewanee Steel Boilers for Heating, Power and Process Steam" are given in the new General Catalog 80, Edition 80N, recently issued by Kewanee Boiler Corporation, Kewanee, Ill. Specifications on the various equipment is supplemented with blueprint type drawings of installations. (Key No. 330)
- Those planning new institutions or the remodeling of showers, cafeterias, corridors, stairways or an entire building will find helpful information in the new Marlite Sample Folder issued by Marsh Wall Products, Inc., Dover, Ohio. Actual color samples of Marlite, the plastic-finished wall and ceiling panel, and swatches to indicate the many colors in which the products are available, are included in the folder. (Key No. 331)
- Historical data on the penetration of America via the Hudson River and the subsequent development of the area around Albany are given in an attractively laid out and printed booklet, "Historic Rensselaer," published by F. C. Huyck & Sons, Kenwood Mills, Rensselaer, N. Y. The text is illustrated by drawings reproduced in black with a wash color plate. The founding of Kenwood Mills and the progress and development of the company make interesting reading while clever sketches show the steps in the development of Kenwood Blankets. (Key No. 332)
- "A Dream of Green Air . . ." is the title of a booklet (Dorex Bulletin 118) issued by W. B. Connor Engineering Corp., 114 E. 32nd St., New York 16, which tells, in narrative style with simple diagrams, some of the problems of air cooling and heating, how a small percentage of odors can make the entire atmosphere objectionable, and how the problem can be solved and money saved. (Key No. 333)
- Changes and improvements in engineering specifications and product design of the Akron Electric Line of Commercial Cooking Equipment are described in a new 16 page 2 color catalog issued by Associated Products, Inc., 1025 2nd National Bank Bldg., Akron 8, Ohio. (Key No. 334)
- Practical hints on correct technics in the care and use of dry cotton mops for sweeping floors are offered in the revised edition of Bulletin No. 25, "How to Sweep Floors With a Cotton Mop," issued by G. H. Tennant Co., 2530 N. Second St., Minneapolis 11, Minn. The advantages of cotton mop sweeping, methods of treating and cleaning a mop and other helpful suggestions are included. (Key No. 335)
- "Pfaelzer Brothers Food Specialties" catalog is an attractively laid out and printed booklet describing the food specialty products available through Pfaelzer Brothers Inc., Union Stock Yards, Chicago 9. Detailed information on each product, servings per container, sizes of containers, approximate cost per serving and other data are included on each item. Tempting illustrations add to the interest in these specialties which include consommés, soups, dressings, gelatins, pudding desserts, sauces and miscellaneous items. (Key No. 336)
- Two new Toro catalogs have recently been released. One on "Toro Tractors and Mowers" is a 24 page booklet with illustrations showing Toro tractors and gang mowers in action and giving complete specifications on these machines. The booklet on "Toro Power Mowers" is a 28 page catalog with full detailed information and illustrations of the complete Toro line of hand and power mowers, including the rotary scythe, suction lift mowers made by the Whirlwind Corporation, a Toro subsidiary. Copies of either or both of these catalogs are available from the Toro Mfg. Corp., Minneapolis 6, Minn. (Key No. 337)

## Suppliers' News

**Hard Manufacturing Co., Buffalo 7, N.Y.**, manufacturer of dormitory beds and furniture, announces the election of **James G. Dyett** to succeed his father, **James H. Dyett**, as president of the company. The company has also been appointed national distributor for **Dunlop Pillo-Foam latex foam products** manufactured by **Dunlop Tire and Rubber Corp.**, also of Buffalo.

**Johns-Manville Corp., 22 E. 40th St., New York 16**, manufacturer of building materials, announces the opening of the **Johns-Manville Research Center at Manville, N.J.**, on May 24, 1949, "Devoted to raising living standards and creating jobs. . . . To service through science for better homes and greater industrial efficiency. . . . To providing more and better things for more people."

**U. S. Gutta Percha Paint Co., Providence, R.I.**, manufacturer of paint products, announces opening of new Chicago office and warehouse at **417 W. Ohio St., Chicago 10.**



## Home-Town Stuff

**M**OST students in your school have been eating Kellogg's Cereals since they were knee-high to a grasshopper. For, back in their home towns and villages, Kellogg's is the clear-cut favorite over any other brand of cereals.

Take Kellogg's Rice Krispies for example. It out-

sells all other ready-to-eat rice cereals combined. Naturally, the familiar flavor of this famous cereal is "home-town stuff!"

Many of your undergraduates were raised on Kellogg's Rice Krispies. Give it to them often in the handy individual size that students go for.

KELLOGG'S CORN FLAKES • RICE KRISPIES • ALL-BRAN • KELLOGG'S 40% BRAN FLAKES • KRUMBLES  
KELLOGG'S SHREDDED WHEAT • KELLOGG'S RAISIN BRAN FLAKES • CORN-SOYA • PEP • RICE FLAKES

**MOST STUDENTS LIKE *Kellogg's* MOST**  
**THE GREATEST NAME IN CEREALS**

Battle Creek and Omaha



*Texas Grand Award Winner Says—*

# ALL-ELECTRIC COOKING IS CHEAPER ...EASIER to CLEAN and MAINTAIN!

READ THIS from—  
HERMANN HOSPITAL  
HOUSTON, TEXAS

"In the designing of the new kitchen, sanitation and maintenance were kept in mind throughout.

"All ranges, roast ovens, broilers, fry kettles and bake ovens are electric. WE FIND IT IS CHEAPER AND IS EASIER TO CLEAN AND MAINTAIN."

4 OUT OF 5  
GRAND AWARD WINNERS  
IN 1949 FOOD SERVICE  
COMPETITION HAVE  
HOTPOINT ALL-ELECTRIC  
KITCHENS

We believe no greater testimonial to the advantages of all-electric cooking and the superiority of Hotpoint Equipment could be given than its choice by the Grand Award Winners in four out of the five classifications in Institutions Magazine's Food Service Competition.

You, too, can profit through the experience of these and countless other leading food establishments with the application of all-electric cooking to your own business. The Hotpoint man is at your service and will gladly give you the facts about increased efficiency, lower costs, greater safety and better cooking with Hotpoint.

**HOTPOINT INC.\***  
Commercial Cooking Equipment Dept.  
211 South Seeley Ave., Chicago 12, Ill.

## ALL-ELECTRIC COOKING with Hotpoint

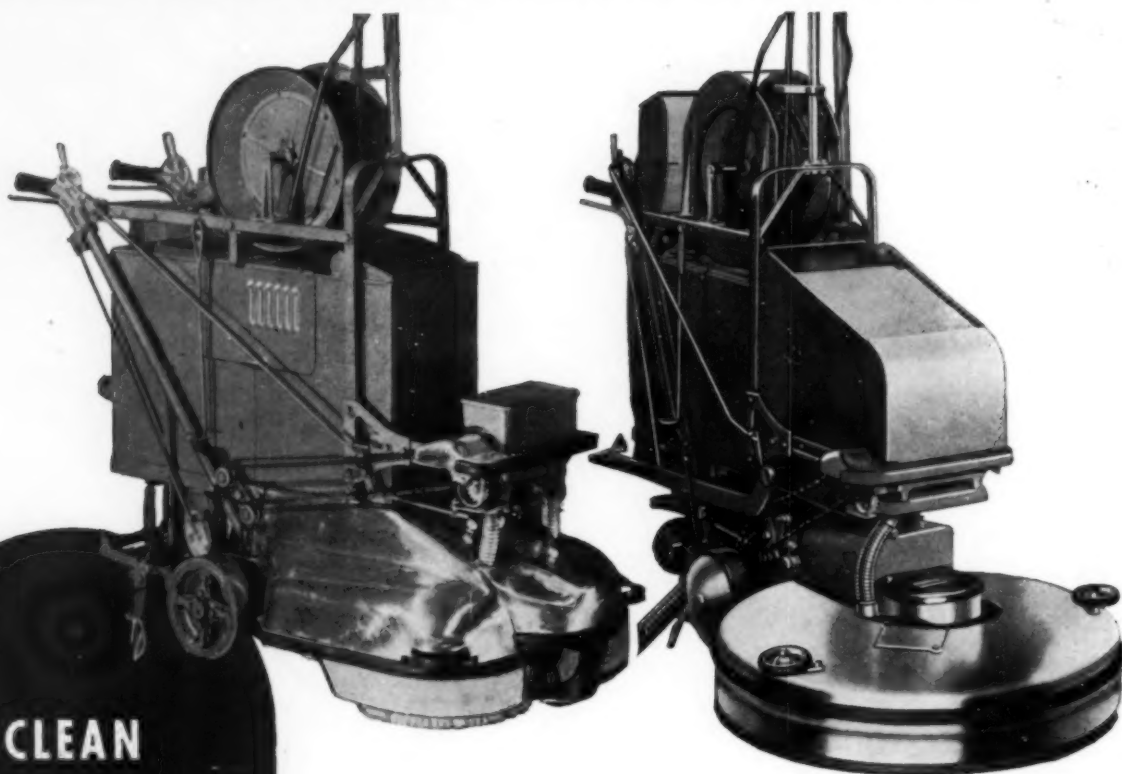
\*A General Electric Affiliate

Hermann Hospital Grand Award Winner equipment installed by Southern Equipment Company, St. Louis, engineered by Ralph J. Mulhauser Company, Dallas.





# *Finnell* SCRUBBER-VACUUM MACHINES...



**CLEAN  
LARGE-AREA  
FLOORS**

*The Modern,  
Faster Way*

**REDUCE  
LABOR COSTS**

With a *Finnell Scrubber-Vacuum*, all four of the floor-cleaning operations can be done mechanically! A *Finnell Scrubber-Vacuum* (1) applies the cleanser, (2) scrubs, (3) rinses if required, and (4) picks up. With one or two operators, this *all-in-one* unit can do a cleaning job better in half the time it takes a crew of six to eight using separate equipment for the several operations.

The model shown above at left, for heavy duty requirements, has a cleaning capacity up to 8,750 sq. ft. per hour. The single disc machine shown above at right, for use on the smoother type of floors, cleans up to 10,000 sq. ft. per hour! *Finnell* also offers a *Scrubber-Vacuum* for smaller operations . . . for use in congested areas. All *Finnell Scrubber-Vacuum Machines* are self-propelled.

There's a *Finnell* man nearby to help train your maintenance operators in the proper use of *Finnell Equipment*. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or *Finnell System, Inc.*, 4408 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.



**FINNELL SYSTEM, INC.**

*Pioneers and Specialists in*

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

**BRANCHES  
IN ALL  
PRINCIPAL  
CITIES**